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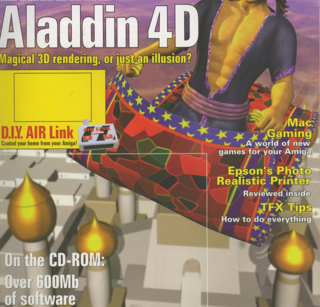

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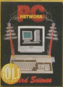

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PD REVIEWS: We get hundreds of new PD programs every week, but we're still hungry for more. If you've written a PD program that you're proud of send it to: **PD SUBMISSIONS, CU Amiga Magazine, 37-39 Millharbour, Isle of Dogs, London, E14 9TZ.**

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ABC January-June 1997 27,391

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Editorial

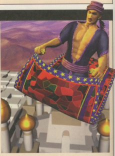
Ain't no stopping us now, as a cheesy old disco band once sang. Now we've got used to doing exciting new things with CU Amiga we just can't stop. Last month it was TFX, and this month we've gone and stuck a circuit board on the cover! It's all part of our drive to revive your Amiga use, push it to new levels and make it do things you never thought were possible. If no-one else is going to do it, we're not going to sit around doing nothing but whinge about the situation – we'll do it ourselves. If there's anything you'd like from us, however far fetched or daft it might seem, let us know and we'll do all we can to make your wish come true.

Tony Horgan, Editor

Lead review

50 Aladdin 4D V5.0

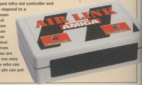
You might have thought all the big applications were being phased out of Amiga development, but Nova Design have refused to follow that well trodden path. Instead, the developers of the mighty ImageFX have taken over development of Aladdin 4D, a poweful 3D rendering system that was left floundering after its original creators jumped ship. With Amiga 3D rendering virtually polarised into the separate professional and hobbyist camps (occupied by LightWave and Imagine respectively), this could be the package that once again unites Amiga artists at all levels. A three-pronged attack of professional features, a re-vamped user interface and a reasonably affordable price point could just make this the most important Amiga software release of the year.



D.I.Y. Scene

28 D.I.Y. AIR Link

You're probably wondering what that circuit board is doing stuck to the front of your mag. It's the basis for this month's D.I.Y. project 'AIR Link', the best, most versatile and easiest D.I.Y. widget ever! This is what it looks like when you've got all the bits and put it together. Cool eh? When you plug this little gizmo into your joystick port, your Amiga will be transformed into an intelligent infra red controller and receiver, with the ability to respond to a wide variety of common household infra red remote control handsets. What's more, it can transmit too! So not only can you control your Amiga from your armchair, you can control any other infra red device from your Amiga! The possibilities are endless, and this project is too easy to make, absolutely anyone who can touch a soldering iron on a pin can put one together in minutes!



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32 AIR Link software

All about the software side of this month's brilliant D.I.Y. project.

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Another 100% full CD with all the best and latest Amiga software. Far too much to list here, so check out page 14 for more.

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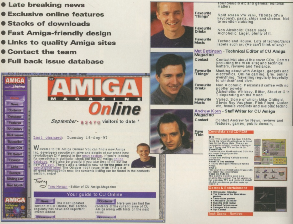

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Tony

Tony Horgan - Editor of CU Amiga Magazine

Your guide to CU Online

News: The most updated section of CU Online, this section regularly has news and important events added.

Contents: Here you can find the contents of the current issue of CU Amiga along with hints on the next issue.

sound/audio etc and general editorial matters.

Favourite 'Things'	Split screen VW vans, TB303s (it's a keyboard), pasta, chips and cheese. Not to mention clubbing.
Favourite Drinks	Non Alcoholic: Cream soda Alchoholic: Lager, plenty of it.
Favourite Music	Techno and House. Lots of techno/dance labels such as; (He can't think of any)

Mat Bettinson - Technical Editor of CU Amiga Magazine

Contact	Contact Mat about the cover CDs, Comms (including the Web site) and technical matters, reviews and freelance.
Favourite 'Things'	Mucking about with Amigas, gadgets and electronics. Online gaming. Erm, online everything. Travelling regularly hopefully to windsurf and dive.
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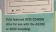

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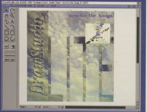

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In September of 1996, LH Publishing released an illustration package by Graham and Andy Dean that was to receive many awards from the world's Amiga press. Now CU Amiga gives you a very special version of this fully functioning application. DrawStudio Lite requires MUI (Magic User Interface). This package provides many of the bits and pieces for DrawStudio's interface and without it, DrawStudio won't run. Once you

Are structured formats the best?

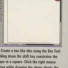
The one question which will soon come to mind is "why isn't there an export DR2D or support for other structured formats. The reasons are many and varied but the main one is down to compatibility. Look at all the programs on the Amiga and you will see that most support different structured formats and there is only one format that is supported across the board and that is IFF-ILBM.

For those that must use structured formats, Metaview will soon we are told, support DrawStudio's format, so conversion between many formats will be possible but if you want the best quality with support for all of DrawStudio's awe inspiring features, then you use IFF-ILBM. You might not know for example, but most – if not all – structured formats do not support bitmap fills and transparency.

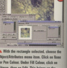
So if you created an image with those elements, even if DrawStudio Lite supported the many structured formats available, you wouldn't be able to have those elements in your image. This is why images created in DrawStudio should be handled in two ways.

One is to print them direct from DrawStudio and the second is to export the image as a bitmap. That way, your image can be used in any Amiga (PC and Macintosh too) program that supports the bitmap format you have chosen when exporting the image.

DrawStudio Lite supports by the way, most popular bitmap formats such as JPEG, IFF-ILBM, GIF, BMP, PCX andTIFF.



▲ Create a box like this using the Box Tool. Holding down the shift key constrains the shape to a square. Click the right mouse button while drawing the shape aborts the task.

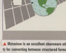


▲ With the rectangle selected, choose the Object/Attributes menu item. Click on None for Pen Colour. Under Fill Colour, click on Bitmap, then on Edit. This brings up the Bitmap Fill List. Click on Edit and in the Edit Bitmap Fill requester, click on New and load an appropriate bitmap. Give the bitmap a name and click OK and OK on the Bitmap Fill list and then OK to apply the attributes.

Converting between graphic formats

When you want to open structured images, the format supported by Draw Studio Lite is DR2D-IFF. You may find though that not all your images are in that format. You may have a lot of Proclips or WMF files. A shareware program called Metaview is what you need and there is a version in the DS_Lite_Extras drawer on the CUCD.

Using Metaview, you can load a WMF file and convert it to a DR2D-IFF for use in Draw Studio. It can also save out files in CGM format, useful for Wordworth owners. I should also mention another utility worth its weight in gold and that's called Convert. It's from those folk at Soft-Logik, publishers of PageStream 3, and converts ProClips from ProDraw into DR2D-IFF files which just happen to load into DrawStudio Lite as well.

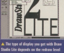


▲ Metaview is an excellent shareware utility for converting between structured formats. It supports WMF, DR2D-IFF and CGM among other types.

Display tips

When you open the Display requester, you will see a number of display types from 24-bit to 1-bit. If you are working with images containing thousands of colours, and you want to see all the fancy effects like transparency, then select 24-bit. If on the other hand, the images you are creating are simply black and white (no greys), then 1-bit is more appropriate. In between are 8-bit colour and greyscale.

With 8-bit colour selected, you won't see any transparency effects and if your imagery is in grey, then the best mode is 8-bit greyscale. The display can also be changed by choosing one of the options from View/ReDraw Level. These range from Full where you see all the effects and colours possible under your chosen screen-mode to a wireframe mode.



▲ The type of display you get with Draw Studio Lite depends on the redraw level selected from the View menu. Here we see the wireframe mode.

have MUI installed, you can run Draw Studio Lite.

It is worth noting that MUI is not Magic Workbench and will not affect programs that do not require it. It will also not use any extra memory until an application that requires the MUI libraries is run. Above all, MUI is not a program that is run and so anyone who is worried about installing MUI should not be. All it does is take up a few megabytes of disk space and because it can be installed on any partition, that shouldn't be any reason for not installing it.

Screen modes

By default, Draw Studio is set to run on a High Res screen and if you run a screen mode such as Productivity, then you will first need to change the screen mode before going onwards. Remember that for non-video modes you will need a capable monitor. The change of screen mode is achieved by going to the Settings menu on the right of Draw Studio's screen and choosing the Click on the Choose button and select the screen mode you want DrawStudio Lite to run in.

A little tip: if Draw Studio's screen is initially hard to see because of an incorrect screen-mode, then go to Workbench and drag it down so you can see Draw Studio Lite's screen. It will inherit the screen-mode of Workbench while you make any changes necessary. While still on the subject of settings, you might also like to choose Settings/Prefs to select the measurement units, screen dpi, JPEG export quality and much more.

Getting started

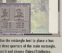
There are a number of ways you can begin the image making process. One is to Open (Project menu) an existing structured drawing and modify that within Draw Studio Lite. Your program supports the Amiga standard structured format of DR2D-IFF. Images in this format can be found on Aminet and other places or you can use an excellent piece of shareware called Metaview to convert other formats.

Draw Studio Lite will also open its own files of course. The Draw Studio format is the most comprehensive of all because it supports many things like bitmap fills, transparency and so on and that's something most structured formats like Illustrator 88, WMF, CGM and so on do not.

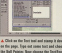
A second method of creating an image is to Place (Project menu) a number of image types onto the page. These formats include Draw Studio and DR2D-IFF files and many bitmap types like JPEG, IFF-ILBM, BMP, TIFF, GIF and PCX. The last method for image creation is to use the program's drawing and text tools to create something completely original. To do this, you'll need to understand some of the programs most important tools.

In the toolbox

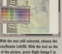
Down the left of every project is the toolbox. This contains a number of useful tools for drawing straight lines, freehand lines, Bezier curves, rectangles with square and rounded corners, ovals and arcs. One of the most useful tools however doesn't require any talent because it lets you create text using outline fonts.



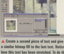
▲ Use the rectangle tool to place a box over three quarters of the main rectangle. Select it and choose Object/Attributes. Make Pen Colour None and under Fill Colour, click on Solid and Edit. In the Colour List, click on White and then on New. Click on Edit and in the Edit Colour requester, change the Opacity to 50%. Give the colour a new name and then click on OK three times.



▲ Click on the Text tool and stamp it down on the page. Type out some text and choose the Null Pointer. Now choose the Text/Font menu item and select the font you want and the size for your text. Notice from the screen grab you can have custom sizes for size and width. Apply the same bitmap fill attributes to this text as the rectangle in step 1.



▲ With the text still selected, choose the Effects/Rotate Left/90. With the text on the left of the picture, press Right Amiga-T to clone it. Give it a black fill. Repeat and give it a white fill. Place the two over the top of each other then place the text with the bitmap fill over the top. Use cursor keys to position the text and Right Amiga-[and] for shuffling the text objects under one another.



▲ Create a second piece of text and give it a similar bitmap fill to the last text. Notice how this text has been stretched. To do this yourself, select the text and grab the middle handle along the top or bottom edges. Now hold down the left mouse button while the pointer is over the handle and pull the mouse up or down. When the text is the right height, let the left mouse button go.

Upgrade information

An even better Draw Studio? You may not think it possible but there is an even better version of Draw Studio you can upgrade to for a pittance. Version 2 of Draw Studio is everything your Draw Studio Lite is but with some extra bells and whistles.

To start with, Draw Studio 2 has a Text on a Curve feature that is perhaps the most powerful of all implementations ever seen of this function. Text can be wrapped around and inside curves, circles, squares and more. Like warping in Draw Studio Lite, there is a preview as well so you know just the effect you are going to get.

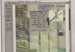
There's more though. As you will see when you Export or Print from Draw Studio Lite, the maximum colour depth supported is 8-bit or 256 colours. With Draw Studio 2 you can print in full 24-bit and if you have TurboPrint 5, this output goes direct to TurboPrint with no loss of quality. This lets you print gradients which are nice and smooth.

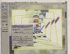
And speaking of quality, how about exporting images from Draw Studio in 24-bit colour with the option of anti-aliasing to smooth out all those curves for the absolute best quality you'll see on a bitmap. Version 2 of Draw Studio can handle all this and for those bitten by Draw Studio Lite's excellent features, the upgrade makes perfect sense.

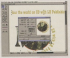
If you want PostScript support, then Draw Studio V2 also supports this type of output including EPS. There's one more vital new feature in Draw Studio 2 and that is 24-bit display support for CyberGraphX users. With this, you'll be able to see your images in all their glory on screen before putting them to paper.

For £29.95, you can upgrade to version 2 and then start to really cook with Draw Studio. This includes a printed manual of course so you can get to grips with all of Draw Studio's great features. For a full list of the upgrades see the cut-out coupon opposite which lists all your options.

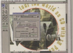
One word of note though. To take advantage of this great offer brought to you by CU Amiga Amiga Magazine and LH Publishing, you do need to return either the original coupon, or if you don't want to cut up magazine, your cover CD/ floppy disks with the order as proof of purchase. Any disks sent will of course be returned.


▲ To create full colour images, you can upgrade to version 2 of Draw Studio which supports 24-bit export.


▲ With the version 2 upgrade of Draw Studio, you can print in 24-bit to TurboPrint 5 so that gradients print smoothly and full colour images look photographic.



▲ The upgrade to Draw Studio 2 has a really powerful text on a curve function that allows you wrap text around and inside ovals, rectangles and curves.



▲ Version 2 of Draw Studio, the upgrade available through LH Publishing, supports PostScript export as well as the normal bitmap formats. This includes 24-bit export.

At the bottom of the toolbox are a number of icons that are attached to DrawStudio's unique pop-up palettes. These are a little difficult to describe so why don't you live dangerously and click on one. Clicking on a pop-up icon brings the palette up while clicking the same icon again, closes the palette. Clicking on an item in the palette also closes it, as well as applying that attribute to the selected object.

Getting your fill

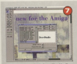
This leads us to object fills and outlines. Every object, even text (once converted to a Bezier object) can have a fill and a different outline. Create a rectangle for example and that object's fill and outline can be a solid or transparent colour, a bitmap fill, a pattern, a gradient (using solid or transparent colours) or no fill or line colour at all.

Once you have an object on your page, it can be warped. Draw Studio Lite contains a number of preset warping styles with a slider enabling you to control the effect. If that isn't enough, you can click on Use Envelope and mould the object using control points. Here's a quick look at how to warp an object.

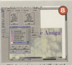
First make sure the object you want to warp is selected. Then choose Effects/Warp menu item. Next to the label Type is a cycle gadget or if you click on the right side of the gadget, you will notice a pop-up menu appear. When you have the type of warp you want, move the slider to get the effect. A preview on the right of the requester will show you roughly what you will see on your page. Now click on Warp. If the effect isn't what you want, choose Undo from the Edit menu and start again.

Shapely ARexx

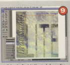
Okay, perhaps ARexx doesn't have the same shapely appeal as Elle



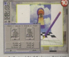
▲ Create a new piece of text like this. Use the Fill Colour pop-up to apply the solid colour to the text.



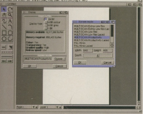
▲ With the text just created still selected, press Right Amiga-T to create a Clone. This can also be done by choosing the Edit/Clone menu item. Apply to this text, the 50% white fill used in step 3 and offset the text as well as send it behind using the short-cut Right Amiga-[.



▲ Using the Straight Line tool, draw a line and use the Pen Colour Pop-up to give the line a colour. Click on the Line Ending pop-up to choose an arrow head for the line ending.



▲ In the top right of the image, draw a rectangle and give the box a yellow Pen Colour with a six point line weight from the Line Style tab and then apply a bitmap fill as well.



▲ Before doing any work in Draw Studio, select the screen mode you most like to work in from the Display requester, which is brought on screen by choosing Settings/Display.

"the body" McPherson but it (ARexx, not Elle!) can create shapes for you without you needing to sweat on how to create an eight-sided octagon. It's all done through a useful implementation of ARexx by the authors of Draw Studio Lite.

Simply choose the Rexx item from the Effects menu and from the list of effects, select one and click on Execute. The program will do all the hard work in creating the shape and then all you have to do is to use the place pointer to size and paste the drawing on your page. Creating bursts, triangles and so on need never be a chore again.

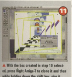
Your final steps

Once you have an image on your page, a final step is to save it. This is done using the Save item from the Project menu. You can however, do much more. One of these options is to select Print, also from the Project menu. The print mode supports 1-bit for black and white, 8-bit grey for 256 colour greyscale images and 8-bit colour. You can also select a range of pages to print. This is because, like a DTP package, Draw Studio Lite is page based and you can create any amount of pages for a set project. Another method of saving your work is to use the Bitmap Export item from the Project menu. As you know, most Amiga applications support bitmaps like IFF-ILBMs and others. Most do not though support structured formats like Draw Studio's own and DR2D-IFF.

Because of this, Draw Studio Lite lets you export your images at a resolution of your own choice, in various bitmap formats. This allows you to get images from Draw Studio Lite into any package you want. You may remember that one of the problems with ProDraw was that very few programs (ProPage and PageStream) would actually load images in the ProDraw format. No such problems with Draw Studio Lite!

The key to exporting images that are going to print at the highest quality is to choose the resolution carefully. If for example, you are going to use a full colour image from Draw Studio Lite in your favourite word processor, then you could afford to export it at around 700 pixels wide for use three or four inches wide on the paper.

If you were exporting a black and white line art image, then you would choose to export at 1200 or so pixels wide and scale down the image in your word processor for the best printed quality. For more information, printed manuals and upgrades are available from the publishers, LH Publishing (01908 370 230). ■

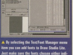


▲ With the box created in step 10 selected, press Right Amiga-T to clone it and then while holding down the shift key, size it down to fit inside the original. Choose the Effects/Rotate... menu item and rotate the box. Rotate the object right or left several times to create an effect like this one here.

Adding fonts to Draw Studio Lite

Draw Studio Lite uses PostScript Type 1 fonts and with that, only requires the ".pfb" file. There are a number of these outline fonts on the CUCD in Draw Studio's directory but you can also make use of those you may already have on your hard drive. Fonts can be in different directories and can be added one at a time or whole directories can be used. There is no limit to the number you can add.

Fonts are added by choosing Text/Font Manager. This brings up a requester showing the current fonts installed as well as a few buttons for adding and removing fonts. Any fonts chosen can be saved to the font list so they are always loaded to be used with Draw Studio ,or you can click on Use so the selected fonts are only available for that session with Draw Studio Lite.



▲ By selecting the Text/Font Manager menu item you can add fonts to Draw Studio Lite. Just make sure the fonts chosen either individually or in a directory are PostScript Type 1 fonts.

Draw Studio Lite Upgrade

AMIGA

Please rush me a copy of Draw Studio V2 at the prices listed below.

Send or fax voucher to:

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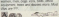

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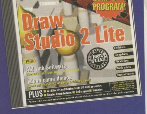
CD-ROM

Super CD-ROM 16

Draw Studio 2 Lite headlines this month's 100% full CUCD16. There's also some game demos from Islona and over 600Mb of other software. See bottom left for a breakdown.



Welcome to CUCD15. If you haven't invested in a CD drive yet, read this to see exactly what it is that you're missing.

CUCD15 can be booted from a CD32 or an A1200/4000 with CD32 emulation. In order to use this CD from your own Workbench, you only need to click on the InitCD icon, which will then allow software to run from the CD. It initiates MUI, IDer and the NewIcons systems – don't be surprised if the look of your Workbench suddenly decides to change. The whole thing is only temporary, and it can be removed by simply clicking on InitCD again.

To help you in finding your way around, there is a DOCS.GUIDE, which will connect you to nearly all text documents, and INDEX which is a CD search tool. Just like everything else on the CD, you need to click on them to activate them.

650 Mb of What?

It's easy to miss the where the real contents of a CUCD lies so here's a list of how much data lies in each directory.

CUCD16 is a well balanced CD, packed to the brim with 650MB of data. Draw Studio is fantastic as it is but it also comes with 100MB of support files to use with it. Great!

● Draw Studio	115MB
● IslonaGames	12MB
● CDsupport	70MB
● CDROM	21MB
● Demos	20MB
● Games	44MB
● Graphics	62MB
● Magazine	15MB
● Online	72MB
● Previews	72MB
● Programming	32MB
● Readers	9MB
● Sound	38MB
● Utilities	20MB
● WWW	42MB

Highlights

Draw Studio

The superb high quality and easy to use structured drawing package, Draw Studio 2 Lite, comes from the Dean brothers' stable responsible for the excellent Image Studio. Draw Studio 2 Lite is a fully functional Draw Studio missing only 24-bit support and some other functions over the Draw Studio 2 package. MUI is required but it is included on CUCD16 as always.

Islona Games

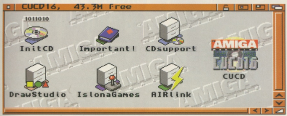
Three killer demos from the new games programming house Islona. Sixth Sense Investigations V2, Pinball Brain Damage and Skimmers. Nothing to do with those, the InfraRexx software to accompany the AIR Link DIY feature in this month's CU Amiga is also on the CD.

More on IDer

Reaction to IDer on CUCDs has been a mixed back of criticism and praise. Much of the problems have been caused by a lack of understanding of what IDer is for and failure to click on the essential InitCD icon. This month we have made some changes to the IDer launcher to work around the teething problems so that this system is more fool proof.

For those that missed it, most project icons on CUCDs now have IDer as the default tool. IDer allows YOU to choose exactly what viewers and players you wish to use for specific types of files. Graphics card users may display all pictures on current and future CUCDs with a hi resolution viewer, for example. Your preferences are saved to your hard drive. The CUCD preferences program can be found in the top left of the CDsupport drawer.

What's in your drawers?



Demos
Games
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Root: The CDsupport drawer can be found in the root of CUCD16. The standard Workbench drawers icons have vanished (though the drawers remain) to be replaced with the CDsupport drawer and an opening Readme file. Draw Studio, AIR Link, the IslonaGames demo drawer and the main CUCD icon can be found here.

Draw Studio: LH Publishings excellent structured drawing package, Draw Studio makes an appearance on CUCD16 in a fully functional 'Lite' version sporting most of the features bar 24-bit support. It's a superb application and it requires MUI, also included on the CD.

AIR Link: InfraRexx, the software support suite for AIR Link, can be found in this drawer along with a collection of available codesets for remote controls. See the AIR Link DIY feature starting on page 28.

Islona games: Three killer demos from the new games programming house Islona. Sixth Sense Investigations V2 demo, Pinball Brain Damage and Skimmers demos can be found here.

CD Support: The vital support files for the CD; viewers, players, IDer and the obligatory CUCDprefs program.

CUCD: This is where the vast majority of the CD hides. What wonders can be found within...

CD-ROM: The latest AmiCDFS, Aminet CD indexes, CD ID collection IDE-fix IDE CD-ROM software, MakeCD and QuickSampler.

Demos: AGA and ECS offerings to swirl your plasma and rotate your 3D world. Turn the lights low, crank your stereo and enjoy!

Game: Another great collection of games, some 16 playable shareware and demo games should keep your joystick busy.

Graphics: 3D Objects, IFF animations, pictures, the latest CybergraphX V3, Picasso 96 RTG systems and more graphics goodies besides.

Magazine: The C source code for the tutorial, database of issues, networking software, MCP and HiDensity, the Wired World network games and... MindGuard.

Online: The Thor news/mail package, Eucalyptus E-mail client, Miami 2.1g, Web creation helps and more superb comms related programs and resources.

Previews: ArtEffect 2 demo, Digital Almanac, MYST screenshots and a bumper Hidden Truth CD-ROM preview.

Programming: AMOS, Blitz, C and MUI programming resources. Documentation and development libraries for coding gurus of all kinds.

Readers: GmPlay GUI, Mods, and utilities sent in by our readers. Keep them coming and look out for a reader's special next month!

Sound: EaglePlayer 2, the latest MPEGA layer III audio player, modules and a bumper collection of samples for use with Soundtracker or any other music package of your choice.

Utilities: Lots of invaluable utilities ranging from AddressaAssist to ViNCEd with every letter inbetween.

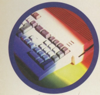
WWW: The big three web browsers,.AWeb II 3.0, IBrowse 1.12 and Voyager-NG demos. The usual on-CD Amiga web sites and CU Online!

Disk doesn't load?

If your CD does not load contact DiskXpress on 01451 810788. If they advise that the CD is faulty send it along with a SAE to: CU Amiga Magazine Disk Returns, DiskXpress, 7 Willow Court, Bourton Industrial Park, Bourton on the water, Gloucestershire GL54 2HQ.

Please note that some CDs will not autoboot on systems other than CD32s, so try loading it from Workbench first. CUCDs will work with almost all Amiga configurations and filesystems. However, we recommend older CD filesystems be replaced where possible. A non-working program is *not* an indication of a faulty CD!

DESTINATION MARS



News

PowerUP unleashed

A1200 PPC gets Graphics Card!

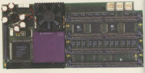
After months of waiting, the PowerUp PowerPC cards from phase 5 are finally available. The Cyberstorm PPC200 board for the A4000, featuring a 200MHz 604e PowerPC processor and a 50MHz 68060 is now shipping to customers. Gordon Harwoods, Weird Science and Blittersoft in the UK should all be able to provide them.

A surprise announcement which should make A1200 owners very happy indeed is that the A1200 cards have been significantly improved. Due to debut at the Cologne fair on the 14-16th of November, the specifications of the Blizzard 603e+ boards have been upped to include two SIMM sockets and most importantly a direct DMA slot which will take a version of the CybervisionPPC card called the BlizzardVisionPPC. The Blizzard 603e+ Power Board will use a 68040 25,33 or 40MHz or a 68060 at 50 MHz as a companion CPU. It will take PowerPC 603e CPUs running at 160, 200 and now 250MHz. There will be a Fast SCSI-2 implementation on board and two SIMM sockets. The Blizzard 603e Power Board, due at Christmas, will have all the same features as the 603e+ but uses 68030 chips as the companion CPU.

The latest benchmark tests of real world applications are showing some truly excellent performances from the PowerUp cards, with 603e/150s clocking between two and three times the speed of current '060/50 accelerators and the 604/200 outperforming the old king of the chips by between five and 15 times as fast. See the table for some examples of the latest figures. Note that the 68060 figures quoted are based on the performance of the CyberstormPPC's companion processor, which runs about 8% faster than the older Cyberstorm '060 boards.

The BlizzardVisonPPC graphics card, which will allow A1200 users the benefits of a graphics card without having to go for Zorro, is similar in specification to the previously announced CybervisionPPC graphics card. They are based on the Permedia 2 graphics chip from 3Dlabs. This powerful chip combines 3D graphics capability comparable to the top of the line 3DFx chipset with an excellent 2D performance. Features of the chip include:

- 1280x1024 pixels in 24 bit colour @85Hz
- 16-bit Z-buffer
- 4Mb SGRAM
- 230 MHz RAMDAC.
- 1 million texture mapped polygons/sec
- 83 million pixels/sec (textured, bilinear filtered, perspective)
- Hardware Gouraud shading, anti aliasing, stencil buffers and per pixel fogging



phase 5 are hoping to have the BlizzardVisionPPC card ready for launch at the same time as the BlizzardPPC cards. Prices (without 680x0 processor where relevant):

CyberstormPPC 200 MHZ	1795DM,	£669
CyberstormPPC 150 MHZ	1295DM,	£499
Blizzard603e+ 160Mhz	749DM	£tba
Blizzard603e+ 250Mhz	1199DM	£tba
BvisionPPC	499DM	£tba
CybervisionPPC	549DM	£219

Contact phase 5 on +49(0)6171 583787 or phone your local phase 5 distributor for further details.

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Mandelbrot "sun2"	940.32s	n/a	39.65s
LWshow small, refmap	240.11s	145.48s	45.49s
LWshow small, no refmap	314.23s	119.38s	34.97s
LWShow medium. refmap	281.67s	162.71	55.30s
LWShow large, no refmap	408.00s	170.32s	66.17s

Amiga Inc. Looking for Development

Things are beginning to looking very good indeed on the Amiga front. Amiga Inc's hiring is progressing apace with announcements shortly to be made on some big name signings. With the software OS update 3.5 a high priority, Amiga Inc with the co-operation of ICOA, the Independant Council of Open Amiga, are setting up a database of third party software and hardware manufacturers.

Developers are being asked to register their details over the Internet, initially via the CU Amiga website at www.cu-amiga.co.uk, and later at the ICOA website when it is fully set up. The idea is to give them the opportunity to bring together the world's most knowledgable developers in various fields to co-operate on the decision making processes which will lead to finalising the future direction of the Amiga. Amiga Inc hope to organise developers into working groups, and will be running developer's conferences at all the major Amiga related shows in the near future, starting with the Cologne show in early November. The developer's conference program will be chaired by Nova Design's Kermitt Woodall, and is intended to give an open forum for the Amiga community to let Gateway and Amiga Inc know what they want from the platform. Amiga Inc's Darreck Lisle assured us that this is just the start of the promised openness of the new owners of the Amiga, commenting that "We will not be another Commodore".

▲ **Epson have struck a deal to offer developer support to Amiga Inc.**

OS3.5 Details: RTG but no MUI

In a step which marks the first in a number of moves to bring third party support for the Amiga back in line with other platforms, Amiga International have signed up as part of the official Epson development programme. They will recieve documentation, source code and technical support to ensure that in the future all Epson products such as printers, scanners and so on will be fully supported by the Amiga's new operating system.

Details of OS3.5 are sketchy at the moment, but we can tell you that it will be based on the Kickstart 3.1 ROM chips, being a software solution. It is expected within the next six months, with a full OS4 including ROM development to follow about a year from now.

Support for retargettable graphics and audio will be included. Java support has been spoken of as something they would like to see, but realistically the amount of work involved means this is unlikely to happen until OS4. A TCP stack will be implemented, and Universal Serial Bus (USB) suppport is being looked in to.

Magic User Interface, hailed by many as an essential addition, looks likely to be left on the sidelines.

World Foundry founded

The revival of the Amiga as a games platform continues with the announcement of another new software house. Digital Anarchy Studios and Deimos Design have joined forces to become the World Foundry, a name based on their concept for shared world games.

The first two games from the new World Foundry stable will be the ultra complex space trading / war game Explorer 2260 and Maim and Mangle, a Gommand and Conquer style real-time strategy game. The three founders of World Foundry, Chris Page, George Hornmoen and Ed Collins, have promised PPC support as a priority, and hope to release PPC versions before 68k versions of their titles.

Promising a richly detailed background universe with complex societies and real world extrapolations of technological assumptions to go with involving gameplay and state of the art graphical effects, World Foundry have put their aim of producing what they hope will be the pinnacle of computer gaming above immediate financial reward. CU Amiga wishes them the best of luck with their venture.

WORLD FOUNDRY

News in Brief

Weird Science Drop Prices

Weird Science have significantly cut the prices of a number of key products. Giga Graphics, a four CD graphics set drops to £9.99, Meeting Pearls 4 drops to £4.99 and System Booster drops to £9.99. There are various other price cuts, but the most significant is the drop in price of Aminet discs to £10.99 for the singles and £27.99 for the Sets. Sets 1, 2 and 3 drop even further to a bargain £15.99. Contact Weird Science for more details on +44 (0)116 246 38000

Sadeness Get Distributed

Sadeness software have announced a distribution deal with Grenville Trading International in Germany in partnership with Weird Science in the U.K. Their upcoming games Foundation and OnEscapee, due for release over the next few months, will be available to retailers worldwide from this distribution partnership. Sadeness Software can be reached on +44 (0)1263 722169

Epic Moves

Epic Marketing, one of the major suppliers of Amiga CD-ROMs and parent company of Islona games are moving premises for the second time in a year due to lack of stock space. Their new address is:

Epic Marketing, Unit 22, Area 50,
Cheney Manor Ind. Est, Swindon,
Wilts SN2 2PJ

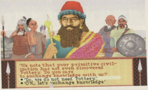
According to Epic, they attempted to move into Area 51 next door, but were repulsed by men in black. Ahem. Epic's phone number stays the same on +44 (0)1793 514188.

Where Champ Man2?

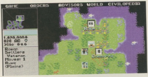
Apologies to anyone who was expecting a review of Championship Manager 2 this month. Yes, it has been delayed again, but not for long, and this time it is our fault, not Eidos'. We had the game in for review some weeks back but asked them to make some changes to it as we felt it was almost but not quite up to scratch. We could have reviewed it and panned it, but that wouldn't have helped anyone. The product is now finished, including several important modifications. Get the full story, and a full review, next month.

Civilization CD in Shops Now

A number of readers, prompted by the news item about Civ CD version in the September issue of CU Amiga Magazine, have informed us that they have had difficulties obtaining this title from branches of Electronics Boutique, and have been told that the title did not exist and would not be stocked. According to publishers Guildhall Leisure this was because of a minor communication problem which has now been resolved. The Civ CD is now in branches of EB around the country, and their buying department is keeping a close eye on sales to guage the demand for Amiga CD releases in respect to stocking future titles. Sales of Civ CD could be a make or break landmark for future Amiga CD-ROM games through high street chains. Fortunately it's the kind of game that's got quite wide ranging appeal across the Amiga gaming community and so with any luck it might prove a point or two. to the chainstores. However EB are waiting to see Amiga users vote with their chequebooks for the future of Amiga CD titles in the highstreets.



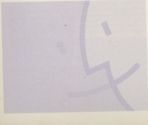
"We note that your primitive civilization has not even discovered Pottery. Do you care to exchange knowledge with us?"
- 'No, we do not need Pottery.'
- 'OK, let's exchange knowledge.'



Fusion Still Running Hot

Microcode Solutions have announced the release of Fusion 2.0, which promises features to surpass the famous shareware ShapeShifter. Fusion, successor to the Emplant Macintosh emulator, will be capable of running the latest MacOS 8, which is currently incompatible with ShapeShifter due to design limitations of the emulator.

Along with providing several bug fixes and implementing features many thought should have been obvious from the start (like support for *all* SCSI controllers, not just the old Emplant hardware), Fusion has improved its MMU support. Details for registered Fusion users will be available through Blittersoft (tel: 01906 261466).



US Amiga '98

The organizers of the US Amiga '97 show held in March have commited to a further show next year following a short visit from Darreck Lisle, who at the time was Amiga, Inc's sole PR contact.

Lisle is the company's "slash", he is currently acting as their PR contact / event coordinator / developer contact / feelgood ambassador until more staff are hired. In three of those capacities, he paid a visit – or more accurately, allowed himself to be paid a visit in the St. Louis airport in between flights back to Amiga Inc's home in South Dakota. Lisle's visit and show of support convinced Amiga '97's organizers to go for two in a row.

Most of what Lisle said falls squarely into the "wait and see" category – in this case, until the Midwest Amiga Expo in the US and the Cologne Computer '97, both in November, but the hits were enough to persuade the organisers of this show that next year would be better than ever.

News in Brief

Cheap Crystals

Crystal Software and Electronics in the Netherlands have announced the release of two budget titles, Trainer Maker, and the previously licenseware title Lost on Parrot Island. Trainer Maker will retail for 9.95 guilders and Lost on Parrot Island for 19.95. Crystal Software are able to sell these products directly, but are looking for UK distribution. Any interested parties should contact them on +31 (0)592 373634.

PageStream 3.3 Announced

Soft-Logik have announced their continuing support for the Amiga with the release of PageStream 3.3. Sold as an upgrade for users of older versions of the already feature-laden DTP package, it will cost $50 for owners of 3.2 and $85 for users of 3.0 and 3.1. New features include fly out tools, font substitution, HTML help guide, improved Adobe Illustrator compatability, RTF export and more other features than we could fit on this page. Rumours indicate that Soft-Logik will also shortly be announcing version 7 of their word processor package WordWorth. For more details call Soft-Logik on +1 314 305 7874

Distant Suns Overhead

The venerable Distant Suns astronomical program has its third distributor in as many years. Power Solutions of Alberta, Canada has acquired the rights to the program after its previous owner, Chaocity (of Vista Pro and Vista Lite fame), closed shop. Distant Suns is an extensive and detailed planetarium simulator, with an extensive and extendable catalog of stars and celestial objects. The Distant Suns package never seemed to get much of a foothold in the European Amiga market, so now could be the time to get your hands on a copy.

Chaocity faced a hotly competitive Amiga software market, particularly with the release of The Digital Universe from Syzygy of Canada. To address this, Power Solutions has announced a deep discount on Distant Suns: $27.75 Canadian retail, or less than £15 Sterling. Power Solutions are welcoming user and dealer inquiries. Contact them at +204-453-0527, www.powersolutions.mb.ca.

Stateside News

by Jason Compton: **Jason Compton is Editor in Chief of Amiga Report Magazine**

Back in the US of A

It's no secret that a lot of American Amiga users were upset when the Amiga went to Germany with Escom. It meant the end of an era. Sure, the Amiga had always been more popular in the UK and Germany, but by having the "official capital" in the US, American users still felt they had an edge over their international counterparts – and of course it was true for a time, particularly in hardware development, that American companies lead the field. Users over here got a big shock when the change was made. Even before, when the market was not huge, physical proximity to all of the Commodore action meant that we had a pretty good retail structure for Amiga sales. But when the Amiga moved to Germany, the UK got an office of Amiga Technologies. Being a smaller market, all the US got was a distributor who had once been a warranty service company. This was not a good move. North America was pretty officially relegated to second-class status, and that stung.

Now the capital has officially moved back to the US, and now it's the other side of the coin. Now more eyes are turning to us and our market is under closer scrutiny. It's an interesting sight, to say the least, having made some major changes in recent years. That hardware dominance has faded greatly – there are scant few companies still aggressively researching products, owing to the German hardware dominance (and certainly in part due to the weak DM). No American company produces an A1200 '040 or '060 card, for example. Only one builds an A2000 '060 card, and another builds an A4000 '060 card. Both target their products at video and graphics professionals, not at overall power users – although these have certainly found out about the products.

NewTek U-turn?

The video and graphics market is the great paradox in America. NewTek holds an almost god-like significance for so many users, and yet relatively few of them own any NewTek products. After all, there are only so many Video Toasters out there, even if they are cheap on the used market these days. But when NewTek makes noises about cutting all Amiga support (as they have done every week for the past four years), someone's bound to try to start a panic. Similarly when news comes in that hints they may be returning to the Amiga, everyone gets over excited. The news that Amiga Inc will be exhibiting at the NewTek Expo and the rumours that NewTek have asked phase 5 for a PowerPC board have distracted attention from a lot of companies who are definately sticking with the Amiga. Markets are always about more than one company. After all, the Amiga market has survived through the failure of two parent companies! Sometimes I think my fellow Americans need to look a bit further than one company, no matter how big their contribution has been. People were similarly upset about GVP's disappearance from the Amiga market. And what happened? GVP came back – now it's run by a German.

Net Spam has shut down

The most infamous organisation on the Net must surely be Cyber Promotions and accordingly the most infamous person would be the president, Sanford Wallance.

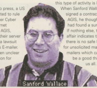
Cyber Promotions is responsible for sending millions of unsolicited E-mails out across the world, naturally enough advertising products and other schemes. This practice makes them highly unpopular on the Internet with end users and larger Internet providers alike. Cyber Promotion obtains E-mail addresses from web sites and Newsgroup lists. CU Amiga has been at the receiving end of unsolicited E-mail from this company also.

As we went to press, a US judge was expected to rule shortly on whether Cyber Promotions' Internet Service Provider, AGIS, must reconnect their server as demanded in a lawsuit filed by the mass E-mailer.

AGIS have been unclear to the exact reason for shutting down of Cyber Promotion's service but it is known that the provider faced significant criticism from other Internet providers who peer with the network. Cyber Promotions has also regularly been subject to a 'ping flood' attack by vengeful individuals which degrades the AGIS network performance in addition to making life difficult for the mass E-mailer.

Whatever the reason, it is not the first time that Cyber Promotions has been tossed offline. In fact, the company's history is rich with tales of having being dumped by one Net provider after another.

ISPs have come under intense heat when hosting 'spammers' as this type of activity is known. When Sanford Wallace signed a contract with AGIS, he thought he had found a sure home. If nothing else, this affair indicates that there is no safe home for unsolicited mass E-mailers which can only be a good thing for us all.



Sanford Wallace

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Gasteiner	74	0181 345 6000
Golden Image	95	0181 900 9291
Harwoods	22-23,68-69	01773 490988
HiSoft	106- IBC	01525 718 181
L H Publishing	OBC	01908 370230
Owl Associates	57	01543 250377
PD Power	98	0374 150972
Sadeness	34,36	01263 722169
Selectafont	36	01702 202835
Siren Software	7	0161 796 5279
Special Reserve	27	01279 600770
Weird Science	IFC-3	0116 246 3800
White Knight Technology	87	01920 822321
Wizard Developments	26	0181 303 1800

▶ With games like Duke Nuke 'em 3D Atomic Edition (centre pic) to choose from, it's well worth getting yourself a Mac emulator and swallowing your pride...

Blackthorne
HOVER BOMB
Marathon

Mac to the future

Why limit yourself to playing only games that were specifically developed for the Amiga, when you could play all of these and more? All you need is a decent Miggy and a Mac emulator...

Curiously enough the past few months have seen a marked upturn in the amount of new Amiga games in development, but if you're still finding it hard to seek out new gaming distractions for your Amiga, you could do worse than cast an eye over the Mac arena. No, we're not talking about ditching your faithful Amiga in favour of a Mac. You can tap into the resource of Mac games using nothing but your Amiga.

The key to it is getting your Amiga kitted out with a good Mac emulator, such as ShapeShifter or Fusion. Prior to the PowerMac generation, all Apple Macs used the same Motorola 680x0 processors as the Amiga range. As a result, it's a relatively simple job to emulate the basics of a Mac on an Amiga. Because the emulation process is a lot simpler and more direct than emulation of the PC, there's not so much performance loss. While for most applications, emulating a PC on an Amiga is impractical, Mac emulation is a realistic and attractive proposition.

What you'll need

You're going to need a Mac emulator of course, and in order for that to work you'll require the appropriate support ROM and operating system. Your Amiga must be suitably expanded to handle the task. There are some general rules you should keep in mind for speccing out your Amiga to prepare for Mac emulation.

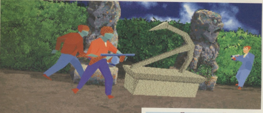
Both of the emulators require a minimum of a 68020 and at least 8Mb of fast RAM in a single continuous block. A 68030 can be considered a recommended minimum to run most Mac software created in the last five years. An MMU (Memory Management Unit) is highly recommended. MMUs come built in to 'full' (non-EC or LC) 68030s and 040s, and all 060s. Most if not all models of A1200 040 and 060 accelerators on the market for A1200s and big-box Amigas alike fit this category. Check your accelerator's documentation if you're not sure whether you have one. A hard drive is also required.

System 7.0.1 is the minimum operating system you can run on either emulator, and conveniently enough, Apple has made it free. It's a good idea to upgrade to 7.5 or 7.6. if you can. However, the new MacOS 8 is slow, eats up RAM and is incompatible at

Great expectations

Based on your Amiga, realistically what can you expect to be able to play? Here's a quick and very rough guide...

System	Game types
A1200, 10Mb RAM, 68020 CPU	Strategy, adventure and early 80s coin-op styles
A1200, 10Mb RAM, 50MHz 68030	2D shoot 'em ups and basic 3D games
Big box/tower Amiga, 18Mb RAM+, 68060, graphics card	Most current games, including new 3D styles



Alone in the Dark Trilogy

◀ Fusing 3D characters and static pre-drawn 3D backgrounds, Alone in the Dark plays well on a relatively low specced Amiga under Mac emulation.

Solarian

Brain Dead 13

A10 Attack!

the very least with Shapeshifter. Stay away from it for the time being.

Unless you're planning to draw solely from online sources of Apple software (such as Info-Mac, the Mac community's poor but serviceable attempt at Aminet), you'll need some way of loading Mac software onto your Amiga. Mac double density disks cannot be read by standard Amiga 880K floppy drives. You have a few options.

1. Get a high density floppy drive. Apple got sensible and decided to make their high density floppies with a more reasonable format, so you can read these on an Amiga high density drive.

2. Get a CD-ROM drive. Most Mac software now comes on CD.

3. If you have access to a real Mac, investigate your removable media options (Zip disks and so on).

A CD-ROM drive is definitely recommended. You can get by without a floppy drive although it's certainly convenient if you plan to do something like install the OS.

Setting it up

Turning your Amiga into a Mac requires a bit more than simply starting the emulator and loading some Mac software. The biggest job is to give the Mac emulator its own hard drive partition. There are three main ways to do this: re-format and partition your main Amiga hard drive, create a 'filedisk' on your hard drive, or format and partition an additional hard drive and add that to your system. The filedisk option is recommended for most situations, but now let's take a quick look at what's involved and the benefits of each solution.

Re-partition the drive

Unfortunately you can't just format part of your hard drive as a new Mac partition.

If you want a Mac partition and you have just one hard drive, the only way to do it is to re-format and partition the entire drive using HDToolBox or a similar tool. This will of course erase all data that was previously on the drive, so you'll need a way of backing up your data. You should have Quarterback 6.1 from our July 1997 cover disks.

This will back up your drive to a mountain of floppy disks or a more sensible medium such as Zip disks.

Create a filedisk

This is the easiest way to do it. An enormous file is created on the hard drive that acts like a virtual drive partition. The work involved in reading and writing to the filedisk makes it slower to use than a standard hard drive partition. However, this method means you don't need to re-format your drive, and if you decide you've had enough of Mac emulation,

CPU requirements

When shopping for Mac games you need to keep your eyes open for two things: the processor and RAM requirements. The good thing about Mac emulators on the Amiga is that you can generally translate your processor speed directly to the Mac equivalent, so your 030/50 Amiga is about as fast as a Mac with an 030/50 in terms of CPU power. This doesn't necessarily mean that a game will run just as fast on your Amiga as the equivalent CPU-equipped Mac due to the Amiga's slow graphics bus (see the Graphics considerations box). There are also games that have been compiled to be PowerMac only, meaning that they require a Mac with a PowerPC processor. While Microcode Solutions has promised to make Fusion be PowerUP compatible on the Amiga, so far that's still in development, so stick with software compiled for 680x0 compatible Macs.

There was never any such thing as an 060 Macintosh, so if you're emulating a Mac with an 060 card, congratulations: your Amiga has joined the elite ranks of Macintoshes with 680x0 processors faster than Apple ever built!

NEW...

POWER UP

AMIGA™ GOES POWERPC™

POWER UP YOUR AMIGA...

A further dimension is being added to Amigas with our new PowerPC based ***BLIZZARD POWER BOARDS*** *for A1200, A1200 based Tower Systems and A1500/2000 systems along with the new* ***CYBERSTORM PPC*** *for A3000/4000 systems. You'll now be able to benefit from performance many times beyond the speed of the fastest 680x0 based boards.*

Designed as upgrades for existing systems, **Power Boards** incorporate innovative dual processor technology where a fast PowerPC RISC processor is combined with a 68k CPU, dynamically sharing memory and system busses.

While the original AmigaOS 3.x continues to run on the 68K CPU, supporting existing applications to provide backward compatibility, the PowerPC CPU is backed by comprehensive PPC Libraries which provide the functionality to integrate PowerPC into an Amiga multitasking environment.

Software developers can easily optimise their programs, step by step, porting single tasks to PowerPC code, which then run in parallel with 68k tasks. Leading Amiga software vendors are preparing ported or optimised versions of their software packages already. It is anticipated that a large quantity of software products supporting the PowerPC will be available soon.

Power Boards will be delivered with a comprehensive suite of utilities, including the PPC library, as well as tools for creative users. Among them is a Public Domain GNU C compiler for PowerPC (including sourcecode), many demo programs and utilities with sourcecode. In addition to this software, free developer support is available via FTP site.

Last but not least, a PowerPC optimised version of CyberGraphX V3 with RISC optimised CyberGL/3D plus MPEG functions and libraries is included (along with a special GGX driver to support the AGA chipset) with full and comprehensive documentation.

	Blizzard 603e PowerBoard	Blizzard 603e+ PowerBoard	Blizzard 2604 PowerBoard	Cyberstorm PPC
PowerPC CPU Clock Speed	603e 175MHz	603e 200MHz	604e 150-200MHz	604e 150-200MHz
Companion CPU	68030 50MHz	68040/68060 25-50MHz	68040/68060 25-50MHz	68040/68060 25-50MHz
Est. PPC Performance MIPS SpecFP95	@ 175MHz Approx. 250* Approx. 3.1	@ 200MHz Approx. 280* Approx. 3.5	@ 200MHz Approx. 350* Approx. 7.1	@ 200MHz Approx. 350* Approx. 7.1
Memory Option SIMM Sockets	Max. 64Mb 1	Max. 64Mb 1	Max. 128Mb 4	Max. 128Mb 4
SCSI On Board	Fast SCSI-II	Fast SCSI-II	Ultra Wide	Ultra Wide
Amiga Compatibility	A1200(+T)	A1200(+T)	A1500/2000	A3000/4000(+T)
Est. Availability	Summer '97	Summer '97	Summer '97	Summer '97

Blizzard 603e Power Board - A1200(+T)

The new Blizzard 603e Power Board is an inexpensive Power Up Accelerator for A1200 system owners who already have a board with a socketed full 50MHz 68030+MMU processor (these CPUs have a gold finish to the top surface) eg. 50MHz Blizzard 1230-II, III, IV or similar. Featuring a 175MHz PowerPC 603e RISC CPU, the board has a socket for the 50MHz 68030, expansion capabilities of up to 64Mb high speed memory and built in SCSI-II controller.

Imagine the performance from your A1200 with this low cost board!

Blizzard 603e+ Power Board - A1200(+T)

The Blizzard 603e+ Power Board is the highest spec Power Up Accelerator for A1200 systems. Featuring a 200MHz PowerPC 603e RISC CPU, the board has a socket for a companion 68040 or 68060 CPU, expansion capabilities up to 64Mb of high speed memory and built in SCSI-II controller. This board is ideally suited to those owners who already use an accelerator with either a 68040 or 68060 CPU (ie. Blizzard 1240T/ERC or Blizzard 1260 owners or their equivalents)

If you want the BEST from YOUR Amiga A1200 - this is it!

Blizzard 2604 Power Board - A1500/2000

If you own either an A1500 or A2000 you can now take advantage of PowerPC technology with this 604e CPU RISC based board which has a socket for a companion 68040 or 68060 CPU, expansion capabilities up to 128Mb of high speed 64-Bit memory, built in Ultra-Wide SCSI controller and a high performance expansion slot for expansions such as the CyberVision PPC. This board is ideal for owners of accelerators with 68040 or 68060 processors such as the Blizzard 2040 or Blizzard 2060 owners (or their equivalents).

Want the BEST from YOUR Amiga A1500/2000? - Look no further!

CyberStorm PPC Board - A3000/4000(+T)

CyberStorm PPC is the ultimate accelerator for Amiga 3000(T), 4000(T) and systems with compatible CPU slots, offer blistering 604e performance - more than 10 times faster than any 68k based accelerator on sale today! Available with clock speeds of 150, 180 and 200MHz, the companion socket for the 68k processor accepts either a 68040 or 68060 CPU. The board provides 64-bit wide externally fast memory expansion using pairs of standard SIMMs, dynamically shared by the two CPUs. Additionally, CyberStorm PPC comes with a DMA driven Wide ULTRA SCSI controller on board offering transfer rates of up to 40Mb/sec for even the most demanding of professional applications. A 32Bit high speed expansion connector, with DMA access to the main memory, is also provided for later upgradeability.

The 200MHz version of the CyberStorm PPC provides performance of more than 350 MIPS or approximately 8.1 SPECint95 and 7.1 SPECfp95*... breathtaking speed that goes far beyond that offered by most PC systems. In the second half of the year, an advanced graphics board will become available for the CyberStorm PPC expansion slot, providing a subset of the innovative CAIPIRINHA custom chip. By having a stand alone version of the DLRP (Display List Risc Processor), this board will offer superior display capabilities through higher VRAM-based resolutions, pixel depths and speeds, as well as the potential to begin developing software supporting the functionality of the forthcoming A\BOX system.

PRICING AND AVAILABILITY:

Options with or without 68k CPUs will allow users to fit the CPU from their existing accelerator. Delivery of Power Boards is scheduled for Summer 1997 following finalisation of CE approvals. Call now for full details.

Special prices available to existing BLIZZARD & CYBERSTORM board users

Blizzard 603e/603e+ Board...	175MHz	200MHz
with Empty 030 Socket	£289.95	
with Empty 040/060 Socket		£379.95
with 68030/50MHz fitted	£329.95	
with 68040/25MHz fitted		£429.95
with 68040/40MHz fitted		£459.95
with 68060/50MHz fitted		£614.95

POWER PC TECHNOLOGY, POWER PC SPEED and POWER PC PERFORMANCE

Cyberstorm PPC 604e Board...	150MHz	180MHz	200MHz
with No Processor	£479.95	£549.95	£629.95
with 68040/25MHz fitted	£519.95	£579.95	£669.95
with 68040/40MHz fitted	£549.95	£609.95	£699.95
with 68060/50MHz fitted	£709.95	£769.95	£859.95

*Quoted performance figures are estimations based on specifications from Motorola/IBM and are relevant to the PowerPC processor only. Prices include VAT @ 17.5%. Owners of other makes of board or those who don't already have an appropriate CPU - please call for prices.

Harwoods... always the Fastest Amiga Boards and NOW PowerPC Technology for Amigas too!

CHECK OUT... NEW LOWER PRICES ACROSS THE RANGE OF BLIZZARD AND CYBER PRODUCTS!

STILL THE FASTEST, NOW LOWER PRICED, NO ONE ELSE COMES CLOSE!

CYBERVISION 64/3D

LOWER PRICES!

64-Bit ENGINE A2000/3000/4000 (T Series) 3D VERSION 24-Bit COLOUR ACCELERATED GRAPHICS CARD.

For all Zorro-3 and Tower System A1200s with Zorro II backplanes.

The core of this great board is the VIRGE GRAPHICS CHIP from S3. With 3D capabilities, it's able to process complex 3D functions in hardware (eg. shaded & textured surfaces) with Trilinear Filtering and Shading/Fogging for super realistic Real Time 3D Rendering. When used with CyberGraphX 3D-library, Cybervision 64/3D can even offer a broad range of 3D facilities for any software developer.

CyberVISION 64/3D... 4Mb Version £139.95

MPEG Decoder - added to the Feature Connector to provide real time MPEG audio and video decoding at full size custom screens or, in Workbench windows (HQ display using 16/24Bit modes from CyberGraphX Workbench). Stereo audio output is provided via the supplied dedicated line output jack. Upgrade to a Cybervision 64/3D and MPEG bundle (from previous Cybervision 64) for a special low price! £149.95

Monitor Switcher - with integrated scan line doubler. Designed to fit into the Amiga slot, this gives full automatic switchover from the standard Amiga signal to Cybervision 64/3D's output. Both cards may be fitted inside A3000/4000 models leaving three Zorro-III slots free. £69.95

CYBERSTORM II

CAN BE EXPANDED TO A FULL 68060

AMIGA 68040ERC AND 68060 ACCELERATORS

You can choose between the 68040/40ERC Cyberstorm II or the ultra powerful 68060 version. When you fit a Cyberstorm II 68060 Accelerator to YOUR A3000, A3000T, A4000 or A4000T you can for example, render a graphic with Imagine 2.0 software in just 2.4 minutes! Compare that with 10.34 minutes on a standard A4000 '040/25! With no jumpers, both Cyberstorm II models are fully plug and play and, A4000 users even have the option of a SCSI-2 Module if they wish (A3000s already have SCSI built in).

- Up to 128Mb of standard SIMMs can be installed and you can even transfer the 72Pin SIMMs from your Amiga A4000 straight onto your new Cyberstorm.
- Optional SCSI-2 Module
- If your budget currently only covers the cost of Cyberstorm II 68040ERC, you can always upgrade later to the full 68060 processor for the extra power!

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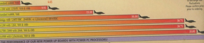

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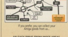

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Graphics considerations

I did say that the CPU power of your Amiga emulating a Mac would be as good or better than an equivalent Mac. However, there's still the issue of graphical display. You can get an Amiga to put out an absolutely stunning monochrome Mac display, but because of the Mac's chunky graphical format (the same thing that keeps Doom clones slow on the Amiga), when you switch to colours, your native Amiga chipset gets a little overwhelmed. Fusion comes with a variety of specially-tailored graphics drivers to try to make up the difference.

Shapeshifter has native support for ECS and AGA, but if you find that these are not enough for you, there are third-party video drivers for AGA and ECS Amigas. These require a large amount of RAM just to use, but you gain in graphical output.

The optimum solution is to run a CyberGraphX or Picasso96 graphics card. Even an old Zorro II A2410 board gives a marked improvement over plain Amiga output.

ShapeShifter vs Fusion

The two big boys of Macintosh emulation must surely be Christian Bauer's shareware ShapeShifter and Jim Drew's recent commercial effort, Fusion. Both packages set out to the same end but get there via different routes. ShapeShifter has been around a lot longer and due to the shareware aspect, there are a great deal more people using it so there is a host of third party support material from documentation to video drivers.

That said, Fusion boasts a host of additional features and performance gains that make it ideal for Macintosh gaming. Direct draw modes to graphics boards is probably the most important and makes Fusion a good deal quicker at running taxing 3D games. There's also a PowerPC version in development for phase 5's PowerUp cards. The first version of Fusion was plagued with difficulties that made it difficult to get up and running but an updated Fusion 2.0 was released to address these issues.

If you're starting out on Mac emulation then you'd be well advised to give Shapeshifter a bash first. It won't cost a penny and you've a good chance of finding some help if things go pear shaped. You may find it is enough. When ShapeShifter is up and running, you can consider upgrading to Fusion which will offer serious performance gains. Look for a review of Fusion 2.0 in the next issue of CU Amiga.

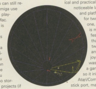
Alone in the Dark Trilogy

▲ Full 3D games in the Quake style will still need plenty of horsepower, and preferably a graphics card, but there are plenty of decent games with lesser requirements.

you can simply delete the file and use the space for Amiga storage once again.

Add a new drive

If you're really serious about Mac emulation it's probably worth considering the addition of a whole new physical hard drive purely for the Mac side of things. Hard drives are getting cheaper all the time, and even a basic A1200 can easily use up to four hard drives from the internal IDE connector (with the help of a splitter). This is the neatest option and you get the best of both worlds: good transfer speed, no backing up of your existing data, and you can still reformat the drive for Amiga use if you get fed up with playing around with the Mac.



When your Amiga is in Mac mode, it will only be able to access the Mac partition. Accessing your Amiga partitions is not possible, so make sure you have enough space on your Mac drive for the OS , the software you intend to use and also storage space for saving projects (if you get bored of games and get into Photoshop for instance).

There are a few things you should keep in mind before setting out to gather as many Mac games as you can lay your fingers on.

Emulator compatibility

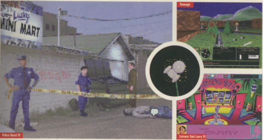
Overall, both ShapeShifter and Fusion do a very reliable job of emulating a modern-day Macintosh. This means you can run most of the latest software, and it also means that the software that wouldn't be compatible with a modern Macintosh isn't compatible with your emulated Mac either. Such examples include software which 'broke' when Apple moved from System 6 to System 7, and software compiled for the old 24-bit memory model. Typically, these are limited to 80s titles, usually black and white (from before Macs had colour – remember that?). Fusion can make a couple of exceptions for more modern titles which are 'not quite 32-bit' – more on that when it comes up.

Game types

The Mac market is more suited for certain types of games than others, for a few historical and practical reasons. There's a noticeable lack of beat 'em ups and platformers on the Mac for two good reasons: one, the Mac user base is more family and professionally oriented than the Amiga, and two: there's hardly anybody with a Mac joystick! The Amiga was conceived partly as a gaming machine and so it inherited the Atari/Commodore 9-pin joystick port, making tens of millions of joysticks ready to be plugged in. The Mac uses a custom bus for input devices, making joysticks expensive, rare, and (as a result) virtually useless. You could probably find a pricey flight stick, but getting a cheapie hand-held joystick is almost out of the question, and few games would support it.

So, keep in mind the sort of games you can control with keyboard or mouse easily – that's what you'll be finding – stuff like strategy games, Flashback-style action, Breakout/Arkanoid, Doom clones, flight simulators for example. ■

Jason Compton



◀ Adventure games play very well due to the lack of large graphics being thrown around the screen.

Real games, real systems

It's all very well say things like you need a 'fast' Amiga to run 'recent' games, but what does that really mean? We tested a range of games to find out just what's required to make them tick. The system requirements listed are those we feel are necessary to do the game reasonable justice.

Game	Description	System requirements	Five star rating
Duke Nuke 'em Atomic Edition	Action packed Doom-alike with added humour and a distinct lack of wizards	CD-ROM, 50MHz 030 minimum, graphics card	★★★★★
Dark Forces	Like Duke Nuke 'em only with a Star Wars theme and added atmosphere	CD-ROM, 50MHz 030 minimum, graphics card	★★★★★
Marathon	More 3D mayhem, stripped of most of the strategy with plenty of action	CD-ROM, 50MHz 030	★★★
Sim City Classic	Manage and develop your own metropolis in a strictly strategy style	CD-ROM, 68030	★★★★
Leisure Suit Larry 6	Lewd graphic adventure with CD-spool soundtrack, verging on childish	CD-ROM, 50MHz 030 minimum	★★★
Brain Dead 13	Attractive animated sequences strung together with minimal gameplay	CD-ROM, 50MHz 030 minimum, graphics card	★★
A-10 Attack!	Unimpressive combat flight simulator that looks very basic next to TFX	68040 only	★★★
Masterpieces of Infocom	Most of the classic Infocom text only adventure game back catalogue	68020 only	★★★★★
Alone in the Dark Trio	Clever and engrossing 3D graphic adventure game in three installments	CD-ROM, 50MHz 030 minimum, graphics card	★★★★
Arashi	Shareware version of the 80s cult vector-based shoot 'em up Tempest	68030 only	★★★★
Rescue	Star Trek-based shareware space battle strategy game with basic graphics	50MHz 030, graphics card	★★★★★
Solarian II	Shareware Galaxians variant that looks tedious but is fun in short busts	68030 only	★★★

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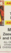

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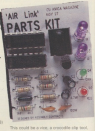


Armed with your covermounted Printed Circuit Board, you're ready to build CU Amiga's latest revolutionary DIY project: AIR Link. Control your entire house from your Amiga and control your Amiga from your arm chair. Too good to be true?

Wondering what the circuit board is on the cover? It's AIR Link, a new easy to build DIY project that will let your Amiga take control. AIR Link is a specially redesigned version of an existing project called InfrARexx. The completed device plugs into the joystick port on any Amiga and acts as a general InfraRed receiver and transmitter. The 'AIR' in AIR Link, stands for Amiga InfraRed. What can we do with AIR Link? The simple answer is, a lot. AIR Link and the support software can learn virtually any InfraRed command sent by existing remote controls. It can also reproduce those commands under control from your Amiga.

AIR Link is capable of controlling any device which is controlled by an Infra Red controller. TVs, Videos, Hi-Fi's even special devices such as light switcher/dimmers and power sockets. AIR Link also allows your Amiga to be controlled by any spare InfraRed controller. There's a mass of applications for AIR Link and we've gone to considerable trouble to make construction of the project as simple as possible. Far easier than Project XG, for example. To build AIR Link, you will need the following:

1. **The kit of components from ACL Ltd.**
2. **A Soldering iron.**
3. **Enthusiasm.**

By providing the Printed Circuit Board (PCB) on the cover, the hardest work is already done. All you need to do is place the components in the holes of the PCB and solder them in. This is actually quite easy even if you haven't soldered before. In fact we've even provided some instructions on soldering technique. All you need is item number 3. in our requirements list and AIR Link can be yours. The kit of parts only costs £15, ACL will also sell a completed unit if you prefer. Either way it's a complete steal for what's on offer!

The ACL AIR Link kit contains all of the necessary components, a special ribbon with a 9-pin joystick plug on the end and a snazzy small box which the PCB perfectly fits in. We're adamant that AIR Link is so easy to construct that even if you've never done anything like this before, you're virtually garanteed to end up with a working unit.

Building AIR Link

AIR LINK
AMIGA
Transmit
Receive

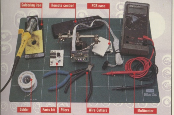
After you've got your kit of parts from ACL, check over the parts to make sure they're all there. It should be apparent if any are missing since they are mounted in foam with labelled space for each part. In order to build AIR Link, make sure you've got a well organised workspace. Lay some paper down so any solder splashes don't mark your working surface. It will aid the speed that you can build AIR Link if you have some form of device to hold the PCB while you mount the components. This could be a vice, a crocodile clip tool, pictured here, or some improvised clamp, grip.

You need to drill two holes in the top panel of the box for the LEDs. Well, you need to if you want to see the LED indicators but it's not essential. The easiest way is to insert the blank PCB into the top lid, fitting over the three long pegs. Next to the circles marked D4 and D2 there are two holes. You can use these as a guide for a drill, a drill bit as close as possible to 3mm is ideal. When finished, you can continue with populating the PCB.

Most of the components are physically different and you'll be able to tell exactly where they are supposed to go. Some others have markings which specify their type and/or value. The first parts we should install are the resistors. These are the components with coloured stripes on them and are identified as R1 to R7 on the parts template and on the PCB itself. See the box on Resistors for an explanation of the colour codes.

The basic technique for soldering parts into a PCB is as follows. Push the leads of the component through the holes. The component should be on the same side of the PCB as the white markings. Generally, they are pushed in as far as they will go unless something special needs to be done like the LEDs, see later. The resistors can go either way around, it doesn't matter. Once the leads are through the holes, pulling them outwards slightly will stop the part from falling out of the PCB when you turn it upside down. That's important because we need to turn the PCB upside down to solder the leads.

See the soldering box for some tips on



◀ Here's an example of the ideal workspace for constructing AIR Link. You certainly don't need all of this equipment but it's fairly typical for building electronic projects.

soldering. The basic technique involves applying the iron and the solder at the same time. This should be done as quickly as possible but the solder should flow neatly over the metallic pad on the PCB and the lead. Generally, all of the leads are soldered and then the excess lead is cut off, just above the solder joint.

The idea is to insert a few components at a time, solder the leads, cut them off and insert a few more components. Repeat until the entire PCB is 'populated'. We should start off with some resistors, check the resistor colours with the parts list and insert the correct ones into the three sets of holes for R3, R4 and R5. Bend the leads out slightly so that they stay in position.

Reheated joint

Solder the leads in. Now you can check that the resistors are mounted on or very close to the PCB. Otherwise, you can reheat the joint very briefly and push the part all the way in. This shouldn't normally be needed. After this, congratulations, you've performed the most difficult thing about constructing AIR Link!

Next, insert all of the rest of the resistors; R1, R2, R7 and R8. Solder them in with exactly the same technique. You should be getting good at this now and hopefully getting very good at applying as little heat for as little time as possible.

Next try C1 and C4 for the two ceramic capacitors. C1 has 103 written on it and C2 has 104. Don't try to pull the leads right through, there's a coating on the legs for a few millimeters and this needs to be left on the top side of the PCB.

The little black tin 'electrolytic' capacitors (getting interested in this electronics stuff yet?) are different. They need to be inserted the right way around. Cryptically, the PCB has the 'positive' side of the C2 and C3 electrolytic capacitors marked where as the parts themselves have the negative side marked with a stripe with minus symbols in it. Accordingly, place the lead towards the striped side in the hole opposite the '+' mark on the PCB. Getting these around the right way is vital, so take care. Next, go for the transistor Q1. This is the small black device with a flat face that has three legs. The PCB clearly has the flat side marked so you should have no problem inserting the leads in the right way. It's quite important not to heat this part up too much so be quick when soldering the leads.

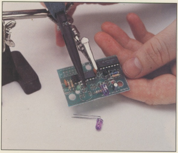
Now it's time to go for the InfraRed LEDs. These are the large clear purple components. One side of them will be slightly flattened around the rim on the bottom. This matches up with the flattened edge on the PCB markings. The trick here is to bend the component leads before inserting them. The idea is that they lay down flat on top of R1. So about 3mm from the end of the plastic,

Resistors

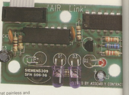
Resistors use a colour code which is easier to make out on the small parts than actual written values. There's 4 coloured stripes on the most common type of resistors. The last colour will be a metallic type colour, gold or silver so you know which way to start reading from. Resistors values are measured in Ohms, we don't have space to go into the theory but the higher the number, the more difficult it is for electricity to flow through. The first two stripes are simple digits. Orange and Black would be 30 for example. The next stripe is the important one. This is the multiplier. The easiest way of looking at it is that this stripe tells you how many zeros to add. Orange (3) Orange (3) Brown (1) would make 330. One zero, see? R4, for example, is a 4K3 resistor on our parts list. That's another way of writing 4300 Ohms. So the colour code would be Yellow Orange Red. Now you can check the values before mounting them without a multimeter. Of course if you have a multimeter, you need only switch it to the Resistance/Ohms scale and place the probes on either end of the resistor. The meter will tell you exactly what value it is.

Black........0 Brown ......1 Red 2
Orange ....3 Yellow ......4 Green.......5
Blue ....6 Grey ....8 White.......9

Note: The 30K1 resistor is a strange electronic value so this is a special component which should be black with the value written in numerals.



▼ Here we're inserting the green indicator LED. Notice the way the leads are bent so that the part can poke through the provided hole in the PCB.



bend the leads at a right angle. The leads should drop into the holes and the InfraRed LEDs D1 and D3 should lay down facing towards the edge of the PCB. Tip: You might like to make them face slightly away from eachother from side to side to offer a wider spread of InfraRed. The next task is to mount the red and green indicator LEDs, D2 and D4. This is slightly tricky as the LEDs themselves need to poke through the holes next to the lead holes on the PCB. The trick is that the leads go up about 5mm, bend 90 degrees, run 5mm and bend 90 degees again. So the leads poke 180 degrees back towards the direction the LEDs are facing. See the accompanying picture of one of the LEDs being inserted which has already had the leads bent in the correct fashion.

A tricky point is that the 3mm coloured LEDs don't have flattened edges like the larger IR LEDs. Instead, the obvious indicator is that one of the leads is shorter than the other. This one matches with the flattened side of the circle marked on the PCB. If you get this wrong, don't worry. The LED will just not work and it can be removed, turned around and it'll work fine. Now for the the most critical stage of the soldering process. We need to add the two 14-pin integrated circuit chips. There is a notch shown at one end of the chip rectangle on the PCB. This should line up with the small semi-circular indent on the end of the chips themselves. The chip that goes in the place for U1 is clearly labelled 4066 and U2 is called 4093. You might like to bend leads at the end of the IC out to hold it in place while you solder. Please note that ICs are the most susceptible to heat damage. We've left them until near last so your soldering technique should be coming along. Switch from side to side as you solder the pins, rather than in a row. Spend only a second on each pin, quickly applying the hot iron and a small amount of solder to each pin.

Now there's just the large IR receiver with three legs. It'll only go in one way but again be careful not to get it too hot. Lastly, the ribbon cable can be attached. One end of it has a header which will plug straight into the 2 rows of 5 holes. The ribbon faces outwards of course. Solder the leads just as you would IC leads.

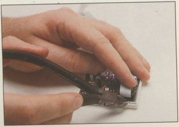
That's it! Yes it really is that painless and what's more, beyond a quick check for components being soldered in the correct way around, we're ready to go straight to testing!

If you're not impatient, you might like to perform the finishing touches now. Insert the completed PCB into the lid of the box. The 3 pegs will go straight into the three holes on the PCB. You'll see that there's a small lip of plastic around the edge of the lid. Where the ribbon cable trails out over the edge, we must cut this lip so that the ribbon can fit through. Mark where the ribbon passes with a pencil and then cut off the lip, as per the picture here, to the same width as the ribbon.

When the PCB is in the lid of the box, the coloured LEDs should poke into the drilled holes in the top case. It's not necessary to poke all the way through since the label is transparent above the LED holes. With the PCB fitted, LEDs lined up, ribbon cable trailing through the gap in the lip around the lid, you can fit the bottom part and screw it all together. Voila AIR Link!

Testing AIR Link

It's quite difficult to put AIR Link together incorrectly. Provided that the chips and cable header are around the right way, we can safely plug the 9 pin plug into the



▶ **Here we're cutting away a portion of the plastic lip around the box. This will allow the ribbon cable neat exit while still being held firm.**

InfraRexx Codesets

There's a good chance that you have some IR equipped appliance that isn't represented in the provided database of InfraRexx IR codesets. No problem, as you can teach the codes to InfraRexx and save the codeset out as per our instructions here.

If you do create a codeset for a new piece of equipment, we'd very much appreciate if you could send us the codeset to add to our database. Then on the following CD we'll include all of the codesets and on our CU Online web site too. If we have space, we may even put them on the floppy disk issue. If you make a codeset, we ask that you name it as follows;

`<brand>-<description>_<model>`

Examples: Sony-Minidisc_MU10, Panasonic-Video_JV211, Fisher-Amp_CD30R Descriptions currently in use; CD, TV, Video, Minidisc, DAT, DCC, VidProj, Relay, Dimmer, Amp, Tape, Turntable, SatDec, CableDec and Multi. The last description is a special example where the codeset matches multiple models and types of equipment in the brand range. Most of the provided codesets are already of this type.

Example: `Sony-Multi`

We'd ask that the Codeset description line lists which models the Codeset has been tested with both for single and multi codesets. Generally the convention for the ARexx Transmit command is somewhat like

`<DESCRIPTION>_<ACTION>`

Example: `TV_CH0, CD_FF, TAPE_REW`

The closer you stick to this convention, the more useful the IR codeset database will be to everyone. Thank you very much in advance for sending in yours. AIR Link codeset, CU Amiga Magazine, 37-39 Millharbour, Isle of Dogs, London, E14 9TZ.

Since they are small, you may MIME attach them in an E-mail to mat@cu-amiga.co.uk or use the FTP site as details on the CD submissions page on page 94.

Amiga's joystick port. AIR Link is now powered and operational! The quickest test is to point a remote control at it and press a key. If all goes according to plan, the green LED should pulse indicating that AIR Link is receiving InfraRed data.

If this doesn't happen, unplug AIR Link and check over the components. For it not to work, something should be quite obviously wrong in the construction.

The next step is to fire up the software and send an InfraRed signal. Run the program InfraRexxEditor. Select Load from the Project menu and go into the Codeset directory and pick one of the files. A list of functions will appear in the Infrared Codes lister. Double click on one of these and another window will open. Pressing the Send button underneath the Code Learner section should make AIR Link transmit.

The Red LED should flash as the button is pressed. The Green LED will normally also flash as AIR Link picks up its own InfraRed transmission. If this all functions correctly, congratulations! You've built a 100% working AIR Link.

What is InfraRed?

InfraRed is a form of electromagnetic radiation, as is the light that we can see visibly. The frequency of light is perceived by the human eye as colours. The highest are violets and blues. The lowest are deep red. You may have seen an illustration of the light which comes out of a prism. This shows you the full spectrum of light components that we see.

InfraRed is light just like Red light only it's of a lower frequency. So low that we can't actually see it but it behaves in the same way as normal light. Just as we get LEDs that emit green and red light, AIR Link uses InfraRed LEDs that emit InfraRed which is totally invisible to us. It is visible to AIR Link which has a dedicated InfraRed receiver.

InfraRed is ideal for remote control applications where you have line of site to the device you wish to control. This method was adopted over the early radio remote controls as things were rapidly going to get out of hand with households using multiple radio transmitters. It's a bad thing if your remote can change your neighbours TV!

It's one thing to shine and pick up InfraRed light but it's another to convey some type of information. To do this, the light is 'modulated' at a frequency typically between 30 and 40Khz. This is done to reject interference from normal IR sources such as sunlight. The modulated InfraRed is then pulsed in a serial bitstream.

Different brands use different modulation frequencies and bit rates. They also have different lengths of the bitstreams which identify each of the functions. We need to discover these variables on the remotes and devices we wish to use. It's the job of the InfraRexx Editor to learn the codes so that we can retransmit them.

Soldering

Defective

Acceptable

Ideal

Acceptable

Defective

The art of Soldering isn't a hard one to pick up. Not only does it make building AIR Link possible but it can come extremely handy around the home. Soldering can be used to fix metalic breaks, wire up special cables or repair broken ones. All we need to solder is a soldering 'iron' and some solder.

To solder in safety and with the maximum success, it's wise to do it on a covered surface so splashes of molten solder don't damage the surface. Molten metal might sound worrying but solder itself melts at a very low temperature for metal. It's very capable of burning you but we're not talking about red hot glowing forges here.

There's a world of difference between something like a plumbers soldering iron and an electronic soldering iron. The electronic unit will have a much smaller bit for fine work and it will operate at a far far lower temperature. If you don't have a soldering iron, they can be obtained from Tandy, Maplin or ACL, providers of the AIR Link parts kit.

You might even like to consider one of the small gas operated irons which offer excellent control over the temperature, have no trailing wires and can be picked up and put down easily on the working surface without worrying about the power lead dragging it onto the floor.

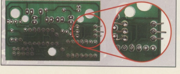
The principal of soldering is that the heat and solder are applied to a 'joint' at the time. There's a chemical called 'rosin' in the the solder which melts first. This is corrosive and will eat away much of the impurities coating the surface of the metals to be joined. Seconds later, the heat deactivates the rosin which leaves brown stains on the PCB joints. The idea is that the solder will coat the wire and the PCB metal pad evenly. Without too much or too little solder and without too much heat. Too much heat or for too long is the killer for soldering. This can damage components and lift the actual tracks on the PCB which effectively destroys the project. Be cautious and test how quickly solder melts on the tip of the iron.

After a few joints are made in quick sequence, you'll find that solder tends to build up on the tip of the iron. Wipe it clean on provided sponge which should be lightly moistened.

The basis for 'populating' a PCB with components is that you insert a few at a time. Bending the leads outwards to hold the components in while the PCB is turned upside down to make the solder joints. After the installed component's joints are made, the leads poking out of the joints are clipped off with small wire cutters. In this way the PCB shouldn't be cluttered with leads at any one time and it maximises the access of iron and solder to each of the joints. Spare some thought for the order in which the components are inserted and soldered.

Specialist tools like project clamps with crocodile clips or even mini project vices can make construction easier. Definitely worth a look if you'd like to go on with building electronic kits.

Finally, if you're very nervous about starting to solder on AIR Link for the first time, here's a handy tip to practice. Obtain any old piece of dead circuit board out of some non-working equipment. Get some desoldering braid (again Tandy, Maplin or ACL) which allows removal of components. This copper braid comes on a reel and is pushed onto the joint and heated up so that it soaks up the solder and removes every last drop. Remove the old component and you have some holes to practice with. Chop off a little of the lead of some of the components in the kit, insert into the holes and have a practice run. Good luck!



AIR Link compo

Now you've built AIR Link, your next task is to put it to good use with your Amiga. It's clear that there are a great deal of applications from the useful to bizarre. We're interested in what uses you come up with for AIR Link so CU Amiga and ACL is running a little competition. Send us details of your application for AIR Link which may be useful or novel. We'd also like pictures if possible. The top 3 entries will each feature in the magazine and receive a years free subscription to CU Amiga. So get cracking and put AIR Link to work!

Send your entries to; AIR Link compo, CU Amiga Magazine, 37-39 Millharbour, Isle of Dogs, London, E14 9TZ.

AIR Link software

The software suite for use with AIR Link is called InfraRexx. There are two main componants to InfraRexx, the InfraRexxEditor and the InfraRexxDaemon. The former allows you to edit a codeset that the software will understand. This can be created from scratch or it can be a modification of an existing codeset. To use the Codeset from then on, the InfraRexxDaemon commodity program runs silently in the background which receives and transmits under control of ARexx.

ARexx is the key here, there's not a lot of point even touching this software unless you have ARexx running. This is more normally accomplished by having "run <>nil: sys:System/RexxMast" in your s:user-startup script. Or RexxMast may simple be dragged to the WBStartup drawer. Don't worry if you can't programming in ARexx, it's not necessary to use the software fully. Here's a quick tutorial on learning a code with a Sony remote control. Load up the InfraRexxEditor. Select Load from the Project menu. Enter the Codesets directory and select the Sony codeset. Now the values for Bitrate and Modulation will be set and we'll have a bunch of codes listed under the Inrared Codes heading.

Press the New button and then click on the Unnamed item that will have appeared and press the Edit button. The InfraRed Code Editor will appear. Press the Learn button on the bottom right of this GUI. Now point your Sony remote control at AIR Link and press a button. You should find that InfraRexx has learnt the code now. You can test this by pointing AIR Link at the appliant the remote control was for and pressing the Send button on the code editor GUI. It should have exactly the same result as your remote control. If not, try learning the code again.

We've successfully completed the basic step of teaching InfraRexx a remote control code. The next step is to do something with it. When the InfraRexxDaemon is running, every time it picks up a signal matching this code, it will execute an ARexx command entered in the ARexx Receive Command box on the Code Editor GUI. The trick here is that it can be a direct ARexx command inclosed in quotes or it can be an ARexx script. For it to be a script it must just a single name. InfraRexx will then look for the script name plus the extension '.irx' in your rexx: path. 'testing' in the Receive Command box would make InfraRexx look for rexx:testing.irx.

On the other hand, we could put in something like 'address HIPPOPLAYER play'. The address part tells ARexx to send the next command to the ARexx port called HIPPOPLAYER which is the ARexx port for the Hippoplayer module player. The 'play' bit is a command supported by Hippoplayer which clearly starts playing a module. This simple method can make any remote control command send an InfraRed command to any ARexx capable application which is quite a lot. See the documentation on the applications you want to use for the specific ARexx commands they support.

The ARexx Transmit Command works differently, you can put anything you like in here. TV_ON would be a good example. Make it upper case for clarity since it's case sensitive. Now if we were to save this code set, run the InfraRexxDaemon on it and then type in the shell;

```
rx "address INFRAREXX <command>"
```

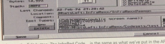
This is a highly important line as it can be activated from within any program such as ToolsDaemon, Tools Manager, Directory Opus and so on. Any button, function and so on can be made to activate an InfraRexx code which will be transmitted by AIR Link. The 'rx' bit tells ARexx that the bit enclosed in quotes will be executed by the ARexx interpretor. The address INFRAREXX tells ARexx to send the <command> to InfraRexx's ARexx port and the <command> is the same as what we've put in the ARexx Transmit Command box when we were editing the code.

The most important factor in running the InfraRexx software is that the InfraRexxDaemon must be told which codeset to work from. This is accomplished by the icon tooltypes of the InfraRexxDaemon itself. The FROM= line needs to point to the Codeset which we have defined previously. For example:
FROM=DH1:InfraRexx/Codesets/Sony. As usual, you gain access to the Icon tooltypes by clicking on the icon and selecting icon information from the Workbench menus.

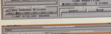
The trick here is you'll often want to test your InfraRexxDaemon while you're working from the Code editor. This won't work as the Amiga's timing chip (CIA) will be tied up while the daemon is running. It is a commodity though, so you can click it again and a requestor will pop up. You should answer that you want to quit. Then you can make your changes via the InfraRexx code editor, save them and re-run the daemon. Phew!

There's a great deal we can do with InfraRexx and we've only touched the basics here. Next month we'll follow up with the finer points and some practicals of our own on what can be done. In the mean time, reading the InfraRexx documentation in full should set you on the right track. Enjoy! ■

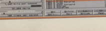
Mat Bettinson - mat@mats.net



Blocks: 29
Bytes: 14,996
Stack: 4096
Last Changed: 22-Feb-96 23:20:42
Location: WhatsLeft:InfraRexx/InfraRexxDaemon
Comment:
Tool Types: (PUBSCREEN=<public screen name>)
(MONITOR=<VO?INO>)
DONOTWAIT
HARDWARE=4
FROM=WhatsLeft:InfraRexx/Codesets/test



Infrared Code Name: DGT 1
ARexx Transmit Command: DGT_1
ARexx Receive Command:
☑ Use Codeset Bitrate
1,447 bits per second
☑ Data Locked
Infrared Bitstream: 1110101010101010101010101100
Delay Between Codes: 44 bits
Code Repetition: 3 times



1,447 bits per second
77,000 Hertz
100 times per second

AIR Link credits

AIR Link is the result of collaboration between several parties to bring this exciting device to as many Amiga owners as possible. The original InfraRexx project was created by the Dutch geniuses Leon Woestenberg who created the superb software and Jeroen Steenblik who designed the hardware originally known as InfraJoy.

We,took the hardware design to Adrian Jones of Assembly Contracts Ltd. Working closely with ACL, a new PCB was created specifically to fit available parts and a specially obtained box.

Many thanks to Leon, Jeroen, Adrian and the other people at ACL for which this project would not have been possible. Thanks also must go to CU Amiga's publisher Andy McVittie who had the forsight to agree to covermounting the PCB. AIR Link has been an intensely rewarding experience to conceive and create, we hope you share in our enthusiasm.

AIR Link technical

This explanation may well be over your head if you have no knowledge of electronics. Don't worry about that, it's not necessary to build and use AIR Link effectively. It's just provided for those who want to know a little more about what it does.

The receiver

To receive the IR codes, we use a hybrid IR receiver from Siemens, the SFH506-36 series. 36 represents the modulation frequency it is most sensitive to. The ACL kit uses a 36KHz part which is in the middle of what most domestic units offer. It will be a little less sensitive to Sony remotes which use a frequency near 40KHz.

This IC is an integrated IR receiver with an amplifier, a filter, a demodulator and a TTL driver. As such it removes a lot of the electronics otherwise needed into a single small 3 legged package.

It produces clean digital data streams when it receives IR information and it is very insensitive to ambient light. The output of this IC is fed directly into the Amiga via the Joy port where it is analysed by the InfraRexx software. We also use the output to drive the green receive LED.

The transmitter

This is a bit more complicated. To get reasonable working distances without interference, it's necessary to modulate the binary information that is fed into the IR LEDs.

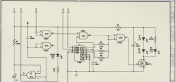
To achieve a greater working distance, this design uses a MOS (Metal-Oxide Semiconductor) transistor which is capable of switching large currents.

Now, a current limiting resistor is needed to protect your Amiga's +5V output. To make the most of the output signal, a capacitor is added to provide larger voltage peaks, therefore enhancing the LED's output.

The signal is modulated using two Schmitt-trigger NAND ports with a software adjustable RC circuit inbetween.

The software adjustability is achieved by using two other output lines of the Amiga joystick port to control two analog switches (integrated into the HEF4066 IC). These switches can both connect a parallel resistor to the RC circuitry, thus creating a total of 4 different resistor values in the RC circuit.

This, of course, does provide four different modulation frequencies, and considering the normal component accuracies this is enough to control most electronic brands. And there you have it.



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Expiry Date: ☐☐☐☐☐

Name on Credit card: ....

Signed: ....

Please make UK cheques, Eurocheques, Postal Orders payable to ACL Ltd. and made out in pounds sterling only. No foreign personal cheques.

Assembly Contracts Ltd supply the AIR Link kit of parts in a built and non-built form. They also stock soldering irons and some other accessories which are useful to AIR Link.

	UK post	Rest of World
☐ AIR Link kit of parts	£14.95	£15.85
☐ AIR Link fully built	£24.95	£25.55
☐ Antex 15W Soldering iron	£12.50	£13.00
☐ Low cost 15W Soldering iron	£7.49	N/A
☐ Infra Red mains light switch*	£25.75	£26.50
☐ Remote control extender**	£63.40	£64.10

Send this form and your payment to:
Department Amiga, Assembly Contracts Ltd, Woodfield House, Woodfield Road, Altrincham, Cheshire, WA14 4AC.
Web: http://www.acl.co.uk/amiga/
Orders available online.
Phone: 0161-6135000 Fax: 0161-6135001

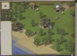
AIR LINK
AMIGA

*(This replaces a normal light switch fitting and allows the light to be switched on/off and dimmed via InfraRexx 240V, no fluorescent lights)

**(Two mains powered pyramids that receive and retransmit InfraRed via radio so that devices in separate rooms can be controlled. 240V mains)

Sadeness

Coming Soon from Sadeness Software, the ultimate Amiga CDROM games!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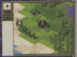
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Screen Scene

No previews... things slowing up? Hardly. We had so much in this month we could have almost filled the mag. Not enough space! What we lose on quantity we make up for in quality with two top new titles, some great re-releases and more TFX.

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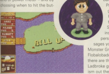
Sensible Golf

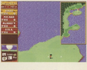
■ Price: £9.99 ■ Publisher: Guildhall Leisure ✆ 01302 890000

Odd one, this. Hardly surprising given the track record of Sensible Software, famed for their use of tiny sprites and deranged humour. Sensible Golf eschews the standards of golf games to make a title which clearly prioritises casual amusement over sports simulation.

The idea of Sensi Golf should be immediately familiar to those who've ever played a computer golf game. You pick your club, aim your shot and hit the fire button. A bar moves along the curved path of a graphical representation of a swing – a kind of power meter – and by choosing when to hit the button again you chose how hard the ball is hit. The bar then moves down again and enters a red zone. The closer to the middle of this zone the bar is when you hit the button for the third time, the straighter the ball will fly.



Hit the button when the bar is to the left or right of the red zone and you get a certain amount of slice or hook. Go too far from the red zone and your swing simply fails to connect and you swing your club vainly like an idiot, something you are likely to do continuously for the first few minutes. The red zone varies in length (and therefore the easiness of the shot) depending on the lie of the ball and the type of club you have. Pretty similar to every other golf game at this stage, but beyond here it starts to get odd. Firstly, the display is from overhead, with Sensible Soccer style sprites instead of the usual first person perspective. Then there are the messages you get when you make the whole Monster Greenie, Hanky Tastic and Flobalobadoberous spring to mind. Then there are the greens. From Tarpon Springs to Ladbroke grove, Sensible have thrown realism out the window with a bunch of courses clearly designed for laughs. There are putting greens in the middle of lakes and holes consisting of small patches of grass in a desert.



▶ It's like Cannon Fodder in peaceteam, or Sensi Soccer the day after the big match. Sensi Golf draws on the simplicity of Gameboy Golf and adds that unique Sensi humour. Fore!

With up to 72 players, cheesy samples, balls that pop out of holes and so on this is a game with an emphasis on casual fun. There are some solid golf game elements (the swing bar is one of the best I've seen), but this is the kind of game best played in a frame of mind that makes you laugh not curse when you fail to notice the computer has selected a 1 Iron for you 2 yards from the hole. If you're looking for an after the pub game this is a rather good option. ■

Andrew Korn

Graphics 75% Sound 88% Lastability 83% Playability 91%

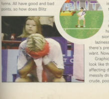
- **Workbench version** .... Any
- **Number of disks** 2
- **RAM** 1Mb
- **Hard disk installable** .... No

87%

Blitz Tennis

■ Price: £9.99 ■ Publisher: Guildhall Leisure ✆ 01302 890000

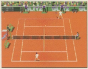
I've always wanted a good tennis game. Maybe it's just a morbid curiosity, a desire to see if anyone would actually ever manage to produce a decent one. The very first computer game, Pong, was a tennis game, while Matchpoint on the Spectrum introduced the notion of attempting to look like actual tennis. International 3D tennis introduced true 3D courts and sampled commentary. Today there are the the cartoony Smash Courts and the ultra realistic Actual Tennis on other platforms. All have good and bad points, so how does Blitz Tennis fare?



Blitz Tennis is blessed with a wealth of options. You can play singles or doubles with all variations of computer or human players. You can choose grass, clay or indoor courts and you can play tours, tournaments and friendlies. There are 100 players to choose from, based on the top 100 ATP rankings from a couple of years ago. Each player is rated in various skills like stamina, speed, serve etc. Sampras, the number one ranked player has 100% in all stats, which seems a little artificial, but this is a good feature which gives all the players strengths and weaknesses which make them unique. All that's missing is Sampras standing around with his tongue hanging out. Apart from the omission of any female players (probably laziness on behalf of the graphic artists), there's pretty much every option you would want. Now onto the game itself...

Graphically Blitz Tennis is dire. The sprites look like they all have rickets or similar leg affecting diseases, and the backgrounds are messily drawn. Animation is limited and crude, poor compared to tennis games of five years ago let alone the very nice looking screenshots we've seen for the upcoming Quiet Please Tennis. Sonically it's even worse with abysmal samples – are these tennis balls filled with glass or something?

◀ You may well hang your head in shame. Sadly the digitised cut scenes say it all.



Over simple controls limit the depth of play, adopting a 'hit the button when you're near the ball to return it' system. You can lend aftertouch to the ball of course, but you don't really get the feeling that there are a wealth of options open to you. All in all this seems barely worthy of a licenceware release. Ah well, my search continues. ■

Andrew Korn

Graphics 45% Sound 30% Lastability 50% Playability 66%

- **Workbench version** .... Any
- **Number of disks** 2
- **RAM** 1Mb
- **Hard disk installable** .... No

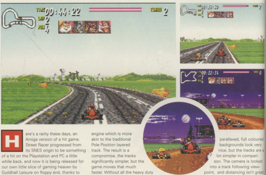
49%

Street Racer

■ Price: £14.99 ■ Publisher: Guildhall Leisure ■ Supplier: Epic Marketing ✆ 01793 514188

Cross Street Fighter with Bump & Burn, and you'll have some idea of the chaos that goes off in this long overdue comedy race 'em up.

▶ **Right: Here we have the basic single player race option, but that's only the start of it. Anyone for motorised combat football?**



Here's a rarity these days, an Amiga version of a hit game. Street Racer progressed from its SNES origin to be something of a hit on the Playstation and PC a little while back, and now it is being released for our own little slice of gaming heaven by Guildhall Leisure on floppy and, thanks to their partnership with Epic Marketing, also on CD. We are told that the CD version will have better music, which wouldn't hurt, and the full intro sequence from the Playstation version. This version of the game, programmed by Vivid Image for French Softco Ubisoft, had been sitting on their shelves for a few months until Guildhall got wind of it and snapped it up. Something of a cross between a racer and a beat 'em up, Street Racer is a game firmly aimed at laughs.

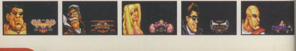
The obvious inspiration for this title is Mario Karts, although Amiga users are likely to be more familiar with Siltunna's brilliant Mario Klone XTR. Comparisons are more in gameplay than technology, with Street Racer opting for a simpler, more 2D graphics system. The tracks don't have the same pseudo 3D complexity of XTR, adopting a game engine which is more akin to the traditional Pole Position layered track. The result is a compromise, the tracks significantly simpler, but the game moves that much faster. Without all the heavy duty course rendering to do, Street Racer manages to be very nippy indeed on an unexpanded A1200. There is added value in the wealth of options and extras that Street Racer crams in, but does its playability live up to the superb XTR?

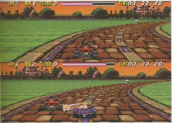
xhead: Initially impressive?

When you fire this up and get a race under way, you are likely to find that the initially impressive graphics just don't do as much as XTR. Being sprite based, Street Racer's cars are more detailed, and the artwork is very well done, but as the game progresses, you will find that the payoff is that the tracks are a lot less directly engaging than Siltunna's effort. Running XTR on a vanilla A1200 means dithered 2 by 2 pixel mode, but give it a little extra CPU horsepower and it looks gorgeous. Street Racer's parallaxed, full coloured backgrounds look very nice, but the tracks are a lot simpler in comparison. The camera is locked into a track following viewpoint, and distancing isn't great so you tend to veer off the road a lot. This isn't particularly important because as long as you are willing to hit the jump button every time a roadside object veers into view, you can happily drive around on the grassy verge. There are no crossovers, jumps or shortcuts, so race around the track heedlessly and you'll rapidly find the game gets rather shallow. So is that it? Written off in 450 words? Luckily not.

Burning rubber isn't really what Street Racer is about. In this game getting ahead of the pack blasting down the course as if you're trying to break the sound barrier in a jet powered car means missing the fun. Where you really want to be is right there in the pack, where you can reach out the side of your car and give your opponents a big fat slap in the face. The tracks are there to

▼ **Below: Take your pick from a range of alter egos with suitably outlandish cars to match, including the obligatory Penelope Pitstop rip-off.**





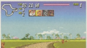
▲If you don't mind sharing the screen, you can have up to four players racing at once!

keep the action going. If you pull to far ahead, there is a very fast reverse gear to get you back ito the action. Even if you don't bother steering, you are held close to the track edges, and will keep doing the circuit regardless. As you tussle your way to the head of the pack, expect to be fighting for place quite literally. A quick tap on the joystick and your driver will reach out an arm and, if timed correctly, send an opponent spinning sideways. Another tap allows you to jump over your rivals, and if you get the right powerups you can use your car's special abilities. Depending on which driver you have picked, this might result in blades coming out from the wheels, powerful bullhorns blasting other cars out of your way, storms of lightning, or in one case your car sprouting a set of wings and soaring over the heads of the other racers like a World War 1 tri-plane.

There are, as you would expect, all the normal options. Cups, head to heads, practice races and championships. There are also a couple of rather unusual options on the list which gives Street Racer and entirely different sort of challenge. Look down the list and you will see that as well as straightforward racing you can pick rumble and soccer modes. These are quite unlike anything XTR has to offer, and add a lot of extra options for the easily bored.

xhead: Ready to rumble?

Rumble mode is Street Racer's answer to Mario Kart's combat mode, and true to form, it is a lot more in your face. In Mario Karts you spend a lot of time thinking tactically. The arenas are full of twists and turns and place to hide, and the game is all about keeping a close eye on what weapons you and your opponent have managed to pick up. Here the arena is a very small circular course. You race around the course, choosing an inner lane to go slowly or moving to the outside if you want to go fast. With everyone packed into a relatively small space, the action is pretty intense as you try to cut inside the other cars and slap them right off the track. Getting the tactics right is tricky, as overtaking cars tends to mean going on the outside of them, but this puts you dangerously close to the edge and vulnerable to their attacks.



Soccer mode is perhaps even more manic. A direct head to head, you drive your car around a half football pitch, each car tussling for posession and position in an attempt to force the ball into the goal. Alas it doesn't work as well as it might, but it is a pretty reasonable distraction for keeping a few drunken friends from smashing up your furniture.

All in all Street Racer is a game for people who find XTR too serious. Some people, especially those with an Amiga powerful enough to get the best out of XTR, are going to find the simplicity of the tracks poor compared to the well designed 3D tracks of XTR. Coupled with the facility to add in extra tracks, XTR is a much better out and out racer. Chuck in Street Racer's extra options and lunatic gameplay and what you have is something which is less demanding but a lot of simple out and out demented fun. It is playable, and has a lot of variety to keep it going. With what pretty much amounts to three games in one and excellent multi player arcade action, Street Racer is a more than worthy waste of time for any bunch of computer game addicted.

Andrew Korn

STREET RACER

Workbench version	3.0	Graphics	87%
Number of disks	1/CD	Sound	75%
RAM	2Mb	Lastability	87%
Hard disk installable	No	Playability	89%

OVERALL

Fun and varied racer best played with a few friends.

87%

Civilization collapses!

Evil monkeys trained by a Sid Meier hating cult appear to have sabotaged some of last month's games reviews. Civilisation`s overall score of 88% did not tally with the comment "one of the best games ever" because the score was modified by persons unknown. Everyone involved has denied responsibility for the score and the removal of the Superstar award, but the truth will out and here is the real scorebox and award. Our apologies to all involved. There were also some bizarre aberrations on the phone numbers and prices front. Gunship 2000 and Rairoad Tycoon would have scored even higher if they really were under £8, but they are actually £14.99. They are also published by Guildhall Leisure, not Epic, although Epic can sell them to you. Finally the phone numbr on the Civ review was mysteriously not Epic's, which was printed correctly on the next page. If I find those monkeys...

AMIGA SUPERSTAR

CIVILIZATION CD-ROM

Workbench version	Any	Graphics	75%
Number of disks	CD	Sound	n/a%
RAM	1Mb	Lastability	96%
Hard disk installable	Yes	Playability	92%

OVERALL

One of the best games ever produced

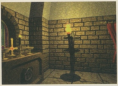
94%

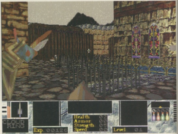
Trapped 2

■ Price: £19.95 plus £1 p&p ■ Supplier: Weird Science ✆ 0116 246 3800

The first Trapped stunned everyone with its 3D effects but the gameplay just didn't quite work. Trapped 2 is even more graphically impressive – but has the game got better too?

AMIGA SUPERSTAR





▶ Right: The most impressive 3D engine the Amiga has seen features real polygon monsters (that's a bee on the left of the screen), lighting effects and quite impressive frame update.

Before I go any further, let me make a quick point about the graphic engine. It's incredible. It's not quite up to the standard of id's Quake engine or Interplay's Descent 2 engine, but then you'll tend to see these running on dedicated graphics hardware and high powered CPUs. The Trapped 2 engine can do an awful lot of what these engines do, and what's more it will run rather nicely on even a medium powered Amiga.

The concept behind Trapped 2 is an interesting one. New Generation software have taken a formula which was getting rather stale and tried to give it an entirely new challenge. The world is full of 'Doom clones', first person shoot 'em ups, and frankly it is begining to get a little boring. Trapped grafted the Doom concept onto an RPG to make something with a bit more depth. The problem with Trapped 1 was that the impressive game engine just wasn't matched by the game play.

There wasn't enough of a depth of challenge to the game, with too few puzzles and fights in too many corridors. Fine for showing off the clever lens flare techniques but not good for long term appeal. The monsters really looked like they had been tacked on as an afterthought: flat and badly drawn sprites which seems to have no spirit for the fight. Anyone who has looked at the demo of Trapped 2 on the Aminet and on our cover CD a few months ago will know that Trapped 2 has been a real step up graphically, but what is important for a game rather than a demo is whether the gameplay aspects have improved as well. Fortunately they have.

The game is set in a fantasy realm of the type that keeps the trilogy merchants in beer and peanuts. You are, as you might expect, on a quest.

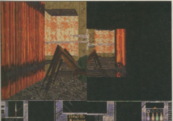
The story explains that "about two generations ago" your grandfather beat the demon Tarnak by locating the wheel of Talmar. Unfortunately the Demon escaped, killed lots of people and scared everyone away from the town of Kaldrion. You have to get into the place of Kaldrion and kick this demon back to hell, but you'll need to locate his eyes before you can get into the palace. I'd have thought he would keep his eyes inside his head, but some people have funny tastes. If the story sounds painful, be assured that English translation is worth the read. Fortunately all you have to know to play the game is that you want to get to this palace place to kill this monster and you'll need to find these eye things on the way.

Making your way around, you will find yourself coming across nasties rather more frequently than you did in Trapped 2. You can fight them with an assortment of weaponry or with some of your magic. People expecting combat to be like the average first person perspective shoot 'em up will be a little disappointed, as Trapped follows a more RPG approach. Each weapon has a different amount of power, but also a different speed. You won't get an instant response from any of them, a limitation to your fighting ability representing both the weight of the weapon and the level of combat skill your character has achieved.

This concept did not work well in

Casting runes

The Magic system in Trapped 2 works very nicely. It is very much along the lines of those in RPGs, but the transfer to a Doom type game comes over very well. You start of with a few spells in your spell book, and will learn more as your journey progresses. Once you know the recipe for a spell, you need only select the appropriate runes to cast it from the spellbook screen, and then when you return to play you need only hit tab to cast it. As well as the old favourites such as healing and fireballs, there are a few real oddities such as astral projection and levitation which work very nicely in this environment.



▲ **There's a range of options available to get the game running as fast as possible. This shot shows the same point in the game at full screen full resolution (left) and reduced screen size with chunky pixels (right).**

Trapped 1, but for the sequel they have got it right, making combat more of a challenge and less of a bloodbath than similar games. Of course if you get bored of hacking things to death with your sword, you can always cast a spell at them, a ball of fire, perhaps, or an ice storm. Blasting glowing balls down the corridor at your foes, watching walls glow as the fireball passes and seeing your oncoming enemy rocked back by the blast is great fun, but you'll find yourself running out of magical energy rather quickly if you do this too much.

As you explore the mazes, you will find a lot of scrolls and potions. Many of the scrolls give you clues to your quest, while others give you the recipies for spells – for more on these see the boxout.

The potions come in four types, blue for health, red to renew armour, green for strength and yellow for a five second speedup. If life wasn't hard enough, Trapped 2 is littered with puzzles. There are switches a plenty in the game, as you would expect from any doomy sort of game, but there is a lot more ingenuity and invention than you normally find. Expect to come across strange mechanisms, whirling blades, and traps a plenty as you make your way through the levels. Remember, this is not a game for mindless slashing, this game requires a lot of thought.

The presentation of the game is nicely polished. There are very nice FMV animation sequences, the game starting with a beautifully rendered wander around the inside of some kind of castle chamber decorated with demonic furnishings and coffins. The music is effectively atmospheric if not stunning and the options screens seem to leave no stone unturned. It's a pity the cover art of the CD is so poor in comparison – a frame from the intro sequence would have done a much better job. The most obvious omission on the presentation side is the lack of a manual. You can get the key codes by hitting 'h' during play for the help keys, but there isn't any sort of printed manual, something I think professional games ought to have. There is even rather strangely no readme icon to fire up some instructions, although there are some text files on the disc in a docs drawer. I guess most people who buy this game will be reasonably competent with their Amigas, and will no doubt be capable of finding these, but a click to read icon in the root of the disc would have been extremely easy for the author to implement and would have added extra professionalism. I guess this is the result of the demo scene background of the coders, something also displayed in the presence of the benchmark utility which tells you how good your machine is at running Trapped 2.

All in all it sounds pretty good so far, huh? Well there are a few down points that have to be made, and on the whole they are to do with collision detection. Everything in Trapped 2 is proper 3D. The monsters are, the furniture is, even you are. Making this kind of 3D environment totally convincing means a lot of work in getting object position correct in three dimensional space. You will occasionally find that you get stuck going around some projection that looks as if it is a little distance from you, and objects have a tendency to pass through each other in a slightly ugly way. The most noticeable aspect of this is when you come face to face with one of those 3D monsters.

◀ **Left: Some of the enemies are really quite good, although unfortunately the combat sequences lack excitement.**

Combat takes place in a position strangely deep into your field of view. When an enemy lunges forwards, it is usually quite unclear whether they are flailing in your general direction or actually hitting you. Graphically this isn't actually an easy problem to solve, but I feel making the positions from which monsters can land a blow on you closer to the 'lens' would have been a significant improvement. Your own weaponry is more visible in effect, often causing small spurts of blood, but even here it's often unclear if you're close enough to hit the monsters or you need to be closer.

Balancing positive and negative points is easy. The combination of a stunning doom type engine and a role playing game which works, is a winner. It isn't perfect, but nothing is. It is one of the most original games to come out of an overpopulated genre on any computer, and shows that while there's coders squeezing this kind of performance out of the Amiga, there's life in it yet. ■

Andrew Korn

The game engine.

The first thing you will notice about T2 is that the game engine features a lot of things you will not have seen an Amiga do before. Complex lighting effects were a feature of Trapped one, although they are improved here. More revolutionary is the mip-mapping. This technique is designed to stop texture pixels going all blocky when you approach a wall, something which you would normally expect to see out of a Nintendo 64 or a Voodoo 3DFX. Next Generation have implemented a clever system of pre-rendered mip-mapping which makes up to 24 Mb of texture to keep the blocky pixels away. Add to that texturing and even blurring and you have a pretty sophisticated texture mapping engine. Nutters!

The impressive range of options allows this game to run on anything from an '020 with 1Mb chip, 4 fast and OCS up to a nice meaty Picasso IV and '060/66. Full screen mip-mapped play really calls for an '040 minimum, but drop the size down a little and it is fine on an '030 and AGA. If you must have the lot and want it to run on your '030/50 you will find it playable even if you do not have a graphics card, though rather jerky. An '060 with AGA nips along at a very pleasant pace, not dropping below about 10 fps. A graphics card helps things fly, but by keeping the resolution down to 320 by 256 pixels, the data throughput problem with AGA isn't really a problem.

TRAPPED 2

- ■ Workbench version......—
- ■ Number of disks.........CD
- ■ RAM.....1Mb chip, 4Mb fast
- ■ Hard disk installable ...n/a

Graphics	95%
Sound	82%
Lastability	88%
Playability	91%

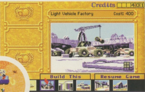
OVERALL

Sophisticated graphics… plus a game! Best Amiga game in ages. **92%**

Dune 2

■ Price: £14.99 ■ Publisher: Guildhall Leisure ✆ 01302 890000

Another re-release from the Guildhall stable. This time we have the father of real-time strategy wargaming.



▲ **From this screen choose your next building project. As the game progresses more and more facilities become available.**

The word classic is overused in game reviewing. Flick through any games magazine and you'll get the impression that classics come along several times a month. Five years on from its original release, this budget release from Guildhall shows that like Civilization reviewed last month, Dune 2 has every right to the epithet.

To deserve classic billing a game should be revolutionary, lasting and immensely playable, all qualities Dune 2 has in abundance. It is telling that Westwood have become one of the dominant forces in modern gaming with titles like Command & Conquer and C&C: Red Alert which are clearly updates of this title. The roots of the genre may be in games like Civ, but, Dune 2 was the first true real-time strategy game and gives away little to the state of the art.

Written for an A500, you won't see state of the art graphics in Dune 2. The palette is noticeably limited and the graphics simplistic compared to more modern variants, but the gameplay, tactics and involvement are there. The arenas are a bit small, and the range of buildings and weaponry smaller than is standard today, but there is enough depth to keep you coming back for more.

Desert planet

Based on Dave Lynch's 1984 film version of Frank Herbert's Sci-Fi novel Dune, Dune 2 has a richly detailed background. You take the role of military commander of one of three noble houses vying for control of the desert planet Arrakis, also known as Dune. The importance of this planet stems from the spice Melange, a substance of immense value found only on this world. You must utilise your resources as efficiently as possible to mine this spice and take control of the planet.

Depending on which of the noble houses you choose to join, you will have certain unique technological innovations available to you. The Atreides, for instance, get to use powerful sonic disruptor cannons, while the deranged Harkonnen have access to heavy infantry units and ultra destructive "death hand" missiles and the Ordos, masters of subterfuge, have specialist sabotage units.

Whichever house you choose, the basic principle is the same. Moving across the planet sector by sector you have to bring the entirety of Dune under your control. In each sector you start with a factory and a small number of military vehicles. Building on the stony areas of the play field, you can build up your settlement by constructing a range of facilities from defensive turrets to weapons factories and spaceports. The first thing to do is to build yourself a spice refinery and send your spice harvester into the deep desert to collect spice, your source of income for further building projects.

Worm alert!

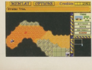
The two main threats to your mining operations are the giant spice worms: who have a tendency to swallow any passing vehicles, and either of the opposing families: who have bases and are mining the spice themselves. When you confront your opponents, hell breaks lose. You'll issue orders to your armies to attack the opposing base, stop their harvesters getting to those valuable spice deposits before you and defend your own base from attack.

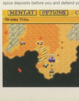
You also have to make sure your own spice harvesting operation runs smoothly and your base is kept in a good state of repair. You will have to keep your factories churning out tanks and aircraft, and if you have a spaceport you can keep your eyes on the interplanetary arms market to look for any units you can pick up at bargain prices. To make things even more difficult, if the galactic emperor thinks that your faction is getting too powerful, you can expect some of his crack Sardaukar troops to be airlifted in and start attacking your base.

As you progress, challenges get tougher and the technology available increases, keeping your interest right to the end. Better graphics would be nice, and the limit to the number of units available at once becomes a little frustrating at later stages, but these are minor points.

With the success of C&C on the Playstation and PC – not to mention upcoming Amiga titles such as Maim and Mangle from World Foundry and Forgotten Forever from Charm Design – this genres time has come and Guildhall's timely budget release reminds us that we've a good example of it on the Amiga (and should be in every Amiga gamer's collection). If you don't have it already, go buy this undoubted classic. ■

Andrew Korn





DUNE 2

■ Workbench version	Any	Graphics	80%
■ Number of disks	5	Sound	85%
■ RAM	1Mb	Lastability	95%
■ Hard disk installable	Yes	Playability	94%

OVERALL

Absorbing and challenging. An outstanding budget release.

92%

TFX Players Guide

Last month's awsome cover disk game gets the full tips treatment, complete with a guide to all the weapons and those mysterious cockpit displays. Watch out for more next month.

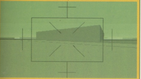
Attacking ground based targets

You have two basic techniques to learn for ground based attacks: laser targetting and HUD targetting devices. The GBU bombs use a laser targetter which should be activated with the 'z' key. Others use a crosshair which appears in your head up display.

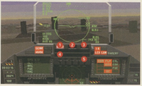
The laser targetter: once this is activated, you can zoom in and out with the '<' and '>' keys. Press the cursor keys to move the crosshair around, and press the 'z' key when the target is in your sight. You know when you are targetting succesfully when the 't' above the target crosshair stops flashing and the 'l' for locked starts flashing. Hit 'x' to cancel a lock and F1 to return to a cockpit view. Your laser guided weapon is now targetted.

Mavericks: line up the target so it appears in the crosshairs. Press space to lock onto the target. You should see a target designator appear. Now press space again to launch.

MK82: this is a freefall bomb, so you have to drop it at the right time and speed. A CCIP (Continuous Computerised Impact Point) line appears on your head up display to predict the line the bomb will take when launched. A small circle at the end of the line shows the predicted impact point indicating that you are at an appropriate angle to drop the bomb. Wait until the circle crosses your target and let loose.



The main panels



There are three main panels: the indicator panel, the main console and the master threat panel.

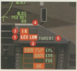
Indicator Panel:

Grey: System inactive but functional.
Green: System active and functional.
Yellow: System has sustained slight damage.
Red: System totally rooted.

Main console:

1: Master Warning Light: Indicates damage to an oboard function.
2: Master Caution Light: Indicates faults or problems which can be fixed in flight
3: Fire Light: Shows that one or both of the engines are on fire. Time to eject!
4: Internal Messages: Status information from the onboard computer.
5: External Messages: Communications from AWACs, control towers etc.

Master threat panel



1: Lock: Lights when an enemy has a lock on you.
2: Launch: Missile has been launched within 30 miles for air to air or 50 miles for air to ground.
3: IR: Indicates IR missile homing on you, release flares.
4: RADAR: Indicates a radar guided missile is heading towards you, release chaff.
5: Threat light: Indicates unidentified aircraft on radar.

Using autopilot

There are actually four different autopilot modes. Just above the 24 hour clock at the far left hand side of the cockpit you will notice a display with a single number in it. Pressing the number keys 7,8,9 and 0 allows you to toggle this number from 1 to 4, selecting the type of autopilot that engages when you hit the 'a' key. These are

1. Waypoint. Directs your aircraft to the next waypoint defined in the mission brief.
2. Heading. Maintains the required heading, altitude and speed – adjusted with the cursor keys.
3. Tracking. Allows your craft to follow another craft on the radar.
4. Auto Throttle. Leaves steering and stick movement in your hands but controls the throttle automatically to keep your speed stable.

The weapons

Here's a reference guide to all the missiles and bombs that are available in the game. Some can only be used with certain planes.

AIR TO AIR WEAPONRY

AIM 9S

Range 16Km Speed Mach 2

The famous 'Sidewinder' is the standard short to medium range weapon of the USAF. It is infra-red guided.

ASRAAM

Range 15Km Speed Mach 3

A close combat missile which can lock on to a target from any angle.

AMRAAM

Range 48Km Speed Mach 4

A Beyond Visual Range radar guided missile, well suited for use with the forward looking radar.

AAAM

Range 200Km Speed Mach 6

A long range missile with active radar homing.

AA-ARM

Range 200Km Speed Mach 5

An active radar fire and forget missile. Rides an enemies radar beam.

AIR TO GROUND WEAPONRY

MK82

Unguided. 500lb yield.

GBU10 - GBU 24

The 'Paveway' series of laser guided bombs with various amounts of ordinance.

GBU BLU 109

A varient of the GBU24 which has a high penetration head for the harder of targets.

CBU 55

A laser guided fuel-air explosive.

JP233 / CMB18

Heavy runway denial weapon. Needs to be dropped from low altitude.

CSW

Cruise missile variant of above for long range targetting. Range 20Km.

Durandal

Runway denial bomb which can easily penetrate 4m of concrete before exploding.

Maverick

Television guided missile with a 40Km range.

AGM 109

Computer guided multiple bomblet airfield attack weapon. 300Km range.

AGM 88

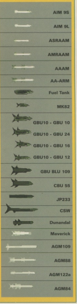
'Beam rider' missile for destroying radar installation. Can be fired blind. Range 18Km.

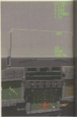
AGM122a

Smaller but faster version of the above. 8 Km Range

AGM84

'Harpoon': a surface skimming anti ship missile. 92 Km range.





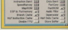
Running TFX on '040 or '060

Some people have had problems getting TFX to run properly on these more sophisticated processors. The '040 version should in theory work on these. In practise it works on some '040s and no '060s. The '040 was rare when the game was written, and we suspect that version was never properly debugged. People with these processors should try the FPU version if they are having some trouble.

The instruction set that the FPU version was written for is the 6888x FPU co-processor for '020 and '030 processors. As some of the commands in this set were dropped or altered for the internal FPUs in '040 and '060s, you may find that this version does not operate too brilliantly. In this case you will have to use a patch for the code to make it run more efficiently on your machine.

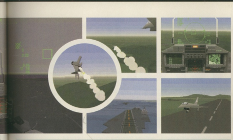
The two best solutions we have come across are:

1. Install MCP: You will find the latest version on this month's CUCD in the Magazine drawer. Go to the MCPPrefs program and select the processor function. Set the preferences as shown in the picture below. This will get you a significant speed up.
2. Get yourself a copy of Oxypatcher. It works for us!



Processor

VBR to FastMemory ☑
Instruction Cache ☑
Instruction Burst ▨
SpeedRamsey ▨
MapROM ▨
SSP to Fastmemory ☑
Branch Cache ☑
Half Instruction Cache ☐
Disable FPU ☐
Copyback ▨
Data Cache ☑
Data Burst ▨
FastCary ▨
FastROM ☑
Audio Filter ☐
Superscalar ☑
Half Data Cache ☐
Store Buffer ☐



The multi function displays

Each aircraft has three MFDs (the three computer screens in the dashboard). You can use keys 1,2 and 3 to cycle through the different functions of these radars. These are:

Master Warning Panel:
Shows the status of main systems. Green means fine, yellow means slight damage, red means destroyed.
The abbreviations are:

ENL	Left engine
ENR	Right engine
WEP	Weapons
FUE	Fuel tanks
ABK	Air breaks
WBK	Wheel breaks
UC	Undercarriage
COM	Communications
FLP	Flaps
HUD	Head up display
RAD	Radar
OIL	Oil pressure

Systems display:
Details speed, altitude, bearing, fuel, range etc.

Weapons display:
Diagrams the status of the aircraft's weaponry pylons.

FLIR
Forward Looking Infra Red shows the forward view via the laser target designator when not targetting a ground installation.

DLIR
Downward looking IR, as above but when a lock is made, the view switches to this.

Ground Target Data
Shows the target and your current distance from its.

RADAR Views.
The radar has various scan modes. Not all are available for all aircraft.

Horizontal Situation Radar
360 degree scan around your aircraft. Use the 'r' key to select 2, 10, 30 or 50 mile range.

BVR radar
Beyond visual range radar gives the EFA2000 a long range facility which scans a narrow beam at up to 180 miles allowing ultra long range missile launches.

MMD
Moving map display. A while line indictates the direction your aircraft is moving.

Control MFD
Displays in flight control info. Includes adaptive wing indicator for F-22 and EFA 2000 and thrust vectoring on F-22.

Radar Symbols:
Air to air –
Red dot: Hostile
Red square: Hostile aircraft you are tracking
Red flashing diamond: An airborne missile

Air to ground –
Red dot: Hostile mobile ground target
Red flashing diamond: Airborne missile
Red flashing dot: SAM radar
Blue dot: Friendly surface vehicle

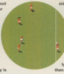
Those keys in full

Engine:	
[	Engine 1 on/off
]	Engine 2 on/off
+	Increase thrust
-	Decrease thrust/afterburners
*(numeric pad)	Increase afterburners 1 stage
/ (numeric pad)	Kill afterburners
Autopilot	
A	Toggle autopilot
7	Auto mode 1
8	Auto mode 2
9	Auto mode 3
0	Auto mode 4
tab	Auto recovery
Landing	
#	Turn on ILS
w	Toggle Wheel brakes
g	Toggle landing gear
alt/b	Drag parachute
h	Toggle hook
alt/l	Auto landing
Combat	
Return	Select air to air weapon
backspace	Select air to ground weapon
space	Fire weapon
c	Change target
z	Activate / target laser targetter
x	Break laser target
<	Zoom laser targetter out
>	Zoom laser targetter in
cursors	Move targetter
Defence	
0 (numeric pad)	Chaff
. (numeric pad)	Flare
e	Ecm
s	Stealth
esc	Eject
alt/j	Jettison fuel tanks and bombs
Systems	
1	Cycle mfd1
2	Cycle mfd2
3	Cycle mfd3
l	Repeat last message
m	Map
r	Change radar range
shift/n	Night sights
alt/h	Toggle HUD
Game controls	
p	Pause
'(above tab)	Options
t	Time warp
d	Flight details (external view)
shift/q	Quit
Views	
f1	Forward view
shift/f1	Forward view, no cockpit
f2	Look left
f3	Look right
f4	Look behind
f5	External view
f6	Fly-past view
f7	View your aircraft and enemies
f8	Missile view
f8 (twice)	IR missile eye view
f9	Target view
9 (on numeric pad)	Look up
3 (on numeric pad)	Look down

Tips Central

It's time for some more tips and cheats supplied by you, the ever-devious CU Amiga readership. So, on with the tips!

Sensi Soccer 96/97



Tips Central just wouldn't be the same without some Sensi Soccer tips would it? Here is a tip that you can eat between meals without ruining your appetite, which comes courtesy of R Grubb of Bidford on Avon.

When a penalty is awarded against your side, wait until a player steps up to take the kick, then with the fire button held down (and don't let it go), press the replay key (R) repeatedly and they will eventually get bored and then give up.

Theme Park

It just wouldn't be the same without a Theme Park tip would it? That sounds familiar... anyway, this everlasting gob stopper of a tip comes from Gregory Cox of Cardiff.

When you're making your own rides, like rollercoasters, monorails and so on, first make them as small as possible, so they are just a little loop. Obviously that won't cost you much, but you can then go back and make adjustments to expand the ride as much as you like. Because you are only charged for the initial size of the ride, this way you can get great big rides for peanuts!

Ultimate Soccer Manager

Scribbled on the back of Aussie Jim Anderson's Slamtilt tip was this selection of crumb-coated deep fried nibbles with sour cream dip (or cheats as they are otherwise known) for Daze's Ultimate Soccer Manager.

First enter your name as MAKE BELIEVE, then use the following keys to cheat your way to victory:

1: win the match 1-0
2: win the match 2-0
3: win the match 3-0
Escape: finish the game with the current score
G: to score an instant goal during the match
M: get yourself a nice little £100,000 bung for no apparent reason.

Slamtilt

Here's a tasty chocolate covered tip for all you Slamtilters to dunk in your afternoon tea, coming again from Jim Anderson of Sydney Australia.

To get five balls, rather than the normal three-ball multiball, type LONGPLAY before you start a game when the table scrolls up and down. You'll get a message to confirm that it's worked, if indeed it has. Jim also has these codes which display hidden messages:

DANIEL
WHIPLASH
BARRY
COW
CHEAT
IAIN
KLAUS

Dungeon Master 2

Old Monty's back again with some more codes, this time for the thinking man's Doom, Dungeon Master 2.

EE OH VEN = Poison Gas
UM FUL = Light
UM FUL IR = Fireball
LO ZO = Open Doors
UM VI = Healing
UM VI BRO = Cure Poison

Teeny Weenies

This one comes from the extremely fleecy and canine-sounding Daniel Huskie of Stenhousemuir, up in Scotland. He has kindly offered up this picnic of codes for Teeny Weenies.

Oh, and we can inform you that he's only nine years old, just for the record.

2: YODEL HEEE
3: SOAPY SPONGE
4: GREAN CHEESE
5: CRISPY TOE CHEESE
6: BARBA PAPA
7: SPEEDY JEWEL BONUS
8: HECTORS HOUSE
9: THE CLANGERS
10: MARY, MUNGO AND MIDGE
11: THE FUNGUS FEELER
12: INVISIBLE BONUS
13: EAR WAX
14: SMELLY LEFT SOCK
15: SPOTTY PIMPLE BUM
16: A.RAW PORK CHOP
17: HAPPY FACED DOG
18: THE CATS NOSE
19: THE AIR VENT
20: SPEEDY BONUS

Charlie J Cool

Lawrence Montgomery seems to be something of a fan of this little platformer. Maybe he finds an affinity with the main character, what with them both having silly names (no offence mate!). Anyway, here are Monty's most useful tips. Pause the game and type in the following:

CURRY AND RICE – 20 lives
DREAMZONE – Invincibility
WAIT DA MAM – Infinite lives
BAD BOY – Skip a level

You need help

If you would like some help on any game – or you have some tips that you'd like to share with your fellow readers – then please write to us at Tips Central at the following address, remembering to mark your envelope Adventure or Arcade accordingly:

**Tips Central,
CU Amiga Magazine,
37-39 Millharbour, Isle of Dogs.
London E14 9TZ.**

Capital Punishment

Capital Punishment, gruesome and quite gory Amiga beat 'em up, has given people more trouble than a porcupine in a barefoot wine pressing festival. Authors ClickBOOM come to the rescue with these official hints and tips.

Cheats

There is a cheat mode in CP that doubles the strength of your fighter. Just go to the warrior selection screen before the fight and slowly press:

up , down , up , up , up , down
(Corben Wedge)
down , down , down , down ,
down , down (Wakantanka)
up , down , down , up , up , up
(Sarmon)
down , up , up , up , down , down
(Demona)

There is also a cheat to use Ninja who is otherwise only available as a computer controlled warrior.
Press:
up , down , up , down , down , up

General tips

1. Head strikes do maximum damage, leg strikes do least. Leg strikes do no stamina damage.
2. Blocks stop you losing energy but not stamina.
3. Strikes do 50% more damage when your enemy is in the air.
4. Strikes do 100% more damage when your opponent is fatigued.
5. Uppercut is your strongest blow, use it on fatigued enemies.
6. Don't be soft, kick your enemy when he is down!
7. When an opponent gets up from the ground he is very briefly invulnerable, watch out!
8. Fool your opponent by faking fatigue... press fire 5 times while in the air and you will appear to be fatigued when you land, but you can go on fighting!
9. While your enemy is in the air, any hit will throw them to the ground.
10. Don't jump with your back to a trap, or a single blow will see your skewered.

Dirty tricks

1. In factory, player two should immediately press uppercut to place any 'early jumper' onto the meat hook.
2. Whenever you are in a fatigue, switch to auto fire, and you will be instantaneously out of it.
3. In timed fights, if you have the most energy near the end, block hits – it will take your stamina, but not energy. Energy wins the fight!
4. Throw your enemy to death by carefully positioning yourself to grab then throw him (forward and down) as soon as he gets up.
5. Corben, Sarmon or Demona can backflip (back and up) to hit the enemy from behind.
Demona and Corben should use fast low kicks when enemy is in the corner. He can't get away, and won't fall into fatigue as leg hits don't take away the stamina.
6. Install the CP level cheat file from CUCD or download it from www.clickboom.com or any Aminet site.

Beating epic mode

The Sewers

Demona: Use whip (fire + up or fire + up and back) to keep that long-legged monster at a safe distance. Try to get it into a corner – hard but worthwhile.

Corben Wedge: Move back as the alien jumps, then before he lands, use a mid-kick after pulling back (fire + forward) or a jump forward and kick (up and forward + fire). This jump-kick you can repeat twice or maybe even three times if you are lucky.

Whenever alien falls on the ground kick him a couple of times, then jump back.

The Temple

Demona is the defender of the Temple (unless you choose her at the menu, in which case Wakantanka is here). Keep her at a distance, and whenever she jumps, and is about to land, jump forward with kick.

The trap on this level is the trident of the statue on the right.

The Nest

Your best bet here is Demona. If you didn't choose her in the beginning, make sure that you free her at the Teacher's, otherwise you will need to be the CP master to finish this level. Use Demona's fast whipping hit (fire + back and up). Get alien in the corner and repeat frantically. Although you may think this is unfair, it does work.

To the secret room...

Sarmon awaits you here, and he is the fastest warrior, so you will have to master close combat, or use Demona's whip. This level hides a secret room to the right. You enter it after uppercutting the enemy from a distance to the right.

Midway

Corben Wedge awaits you here, and you should use either Wakantanka or Sarmon against him. His favourite move is rolling kick and triple kick-combo.

When you put him on the electricity move back, he will be briefly invincible when he comes down. Also, he likes doing the rolling combo right after, so stand back and wait for another chance.

The Approach

Ninja can be stopped by:
High-kick while he is doing his favourite rotational jump.
Jumping and kicking before he reaches the ground. Don't try to fight him in the air, and be especially careful not to end up in the corner, as he will draw his sword.

The Master

If you expecting a regular fight here, you are in for a surprise – Qwesul has the power to morph into animals and objects!
Bat – use high kicks in order to push him back.
Puma – mid kick.
Rolling spike ball – get back or jump over it.
Snake – get back or use mid kick.
Cape – mid kick.
When he disappears into the ground, he usually appears right behind you, so whatever you do be very careful.

Combos

These are the real killer moves. Press fire three times without moving and then push the joystick in any direction. Depending on which way you move the stick, you get a different combo. Get some practice – you need those moves if you want to survive...

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Req: AGA 2MB ram.

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TechScene

Wahoo! We've a monster review of Aladdin 4D, A1200 Ethernet, Oxpatcher, Visual IFX and the Epson Photo printer to sink your teeth in to!

Aladdin 4D 50

50 Aladdin 4D

In this special extended review, John Kennedy takes a look at Nova Design's revamped Aladdin 4D version 5.

58 Hydra A1200 Ethernet

Real A1200 Ethernet via PCMCIA. Mat Bettinson asks if it's worth the asking price.

Hydra A1200 Ethernet 58

58 Envoy 2.0

The network filesystem to use with Ethernet or any other kind of network. How does Envoy stack up after all this time?

59 OxyPatcher

Finally there's an alternative to Phase 5's Cyberpatcher for 68060 accelerator owners. Does Oxypatcher deliver better results?

61 Visual IFX

A brand new effects based add-on for Image FX falls under the spotlight. Just what is it really capable of?

Epson Stylus Photo 62

62 Epson Stylus Photo

Epson's latest offering in the Stylus range. This one adds two new colours for enhanced printing. Larry Hickmott checks it out.

64 PD Scene

Jon Brooker looks at a selection of great new PD-software and manages to contain himself for long enough to write about it.

Visual IFX 61

66 PD Utilities

... Basic Note Tutor V2, Tutenkhamun, Directory Opus Help Guide, Class HD Utils 24... Andrew Korn gives you the full S.P.

70 CD-ROM Scene

All of you lucky CD-ROM owning beggars get to choose from a veritable feast of CD delicacies.

72 Art Gallery

Add a much needed splash of colour to your day, with the premium choice of your art contributions.

Here it is... the latest incarnation of an Amiga stalwart. Has it come to solve all of our rendering problems?

Aladdin 4D v5

■ **Price: $279** ■ **Supplier: Nova Design ✆ +1-804 2821157 http://www.novadesign.com**

In the old days, there was a slew of 3D modelling programs, including Imagine, Lightwave, Caligari and Aladdin to name a few. Of these, none used the standard Amiga system of pull-down menus, requesters, windows and buttons.

Around this time, every programmer thought they knew better when it came to user interfaces, and consequently abandoned the standard Amiga look and were all pretty difficult to get to use. This was especially true, in my view at least, of Aladdin.

The latest rendering program released was HiSoft's Cinema4D, and thank heavens that this time we had the standard menus and buttons, and it worked properly with graphics cards. There's no need for modern Amiga software not to work in this way, and at this stage in the Amiga's existence there's little point in trying anything else.

Now, with a change of publisher, it's back. We're promised a 100% style guide compliant interface, with full support for CyberGraphX compatible graphics cards. What's that – an ARexx port? Could this be the software you've been waiting for to take advantage of all that expensive hardware you've bought?

Look and feel

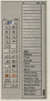
True to their word, or at least, the word on the back of the box, Aladdin is a true Amiga program. Screens, menus and requesters are all familiar and easy to use.

The concept of tab lists has been pinched from the PC, and these make it easy to switch from one list of options to another.

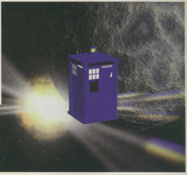
Keeping up with Amiga developments, there is a multitude of possible display modes to work in and display renders. Native Amiga (including AGA) is joined by support for the following hardware: DCTV, Opalvision, Resolver, Retina and VideoToaster.

Picasso or CyberGraphX cards are not included by name, although on my Picasso II system the new screen modes were listed under the standard Amiga drivers. This will probably be true for any CyberGraphX compatible card.

Once you have selected your display modes for the editor, preview and render screens, you can roll up your sleeves and get down to some serious 3D work. Aladdin is a point based program, which classes it alongside Imagine and Cinema4D rather than Real3D, which is based on primitive solids.



▲ The toolbars make common features quickly accessible, but the icons won't win any ergonomics awards, and dragging them around the screen caused frequent crashes.



Open Sesame

The program opens with a pleasant enough textured backdrop, and a single view window onto your blank 3D canvas. Two toolbars provide access to commonly used editing and processing options.

The single view can be spun around by using the numeric keyboard (sorry, A600 owners – although you would be mad to attempt 3D rendering on such a slow 68000 based machine anyway). This will allow you to quickly get a feel for the object that you are creating. When it comes to editing, you are more likely to require a flat view, that is a head on or straight down view. Pressing the space bar achieves this, and you can then add/move points and polygons simply. The view is always wireframe, with no hidden-line removal or shading options available.

Primitive shapes are often the quickest way to get started, and there are two families of shapes you can create. "Platonic Primitives" are 3D shapes such as Tetrahedrons, Isosahedron and Dodecahedrons. Though not particularly useful in their native form, you can quickly drag and twist them into more interesting shapes.

The "Quadratic" primitives include ellipsoid and torus shapes: it's from here that you can create a Sphere for example. Or a Hyperboloid. Again, more complex shapes are maybe not so useful for everyday objects.

An object which will never actually appear in your scenes, but which is vital nevertheless, is a CSpline.

The "C" stands for Control – exactly what the curve does, control other values. Once you have defined the curve, it can be used for shaping a bevel, or controlling the movement of an object over time.

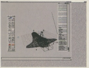
Textures

Like any good rendering program, every object used in Aladdin can have its appearance altered in several ways. Firstly, you can change the colour and other physical properties. Nothing magic about that, and all the usual settings are here to play with.

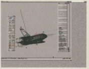
These are all included in an "attributes

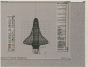
Important features

- Style-guide compliant user interface
- CyberGraphX support.
- ARexx scripting (untested in this review copy)
- AmigaGuide help
- Thumbnail load/save requesters (missing in this review copy)
- External tools and plugins
- Spline-controlled camera movements, with multiple targets
- Animate lights, lens flares, textures, objects
- Hierarchial motion paths
- Gaseous objects
- Fountain particle system
- Procedural and bitmapped textures
- Soft shadows
- Motion blur



▲ With foreground and background options, you can quickly use previously rendered scenes to create new images. Guess which part I rendered in this image...

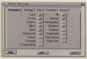




◀ The same object can be rotated to produce different viewpoints, with or without perspective. Only one view can be displayed at a time.

Continued on next page ▶ ▶ ▶

▲ The Platonic objects are named after the well-known, dead philosopher Greek guy, who used to do a lot of 3D rendering in between drinking Ouzo and lying on the beach.



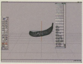
Render Settings

Permissions | Settings | Color | Convolve | Display

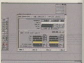
Light: ☑
Phong: ☑
Textures: ☑
Flares: ☑
Gases: ☑
Background: ☑
Overlay: ☐
Rounding: ☐
Z Compositing: ☐
Fill: ☑
Gouraud: ☑
Transparency: ☐
Fountains: ☑
Shadows: ☐
Foreground: ☐
Fog (Depth): ☐
Motion Blur: ☐

▲ Tabs make it easy to squeeze lots of settings into one window

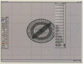
Walkthrough



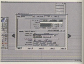
▲ The first step to rendering an image is to define a model. You might want to cheat, and make use of some previously created objects. With coaxing, Aladdin will load LightWave objects.



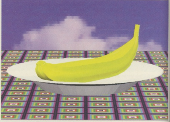
▲ Bananas are yellow. Using the Attribute List window, assign a yellow colour to the banana object. It takes practice to discover the best settings for 'hardness' and 'specularity'.



▲ Now we can add more objects to the scene: in this case a dish for the banana to sit on, and a table to hold them all. We'll also need a light source, and background to the scene so it's not totally black.



▲ Here we apply a procedural texture to the table top to make a lovely bright tablecloth. Similarly we apply a texture to the background, although this time a bitmap image of a cloud is used.



▲ The final image. It looks rather flat, because there are no shadows in the scene. Creating the image again with shadows switched on increases rendering times considerably, and so you should only use them when necessary: not in an animation for example.

list". Each attribute setting can change per frame, and this is altered using the sliders which control the time line. It's unusual controlling the settings for time here in the attribute window, but it makes sense.

It's also unusual to separate these attributes from the textures, but that's how it's done. Probably in order to prevent a gadget melt-down, the textures requester is invoked separately. From here you can apply both procedural (mathematical) and bitmap textures. These can define the usual colour or bump settings.

For extreme cases, it's possible to apply an Anti-aliasing filter to blur the bitmap slightly and avoid chunky pixels appearing where you least expect them. It can also be useful when using bitmaps with few colours – a texture with 16 shades will develop many more when anti-aliased, and therefore look a lot better in 24bit renders.

Animated bitmaps are possible, for use both as textures and background and foreground images. The usual sequential numbering system is used. Annoyingly there is no way to preview a bitmap before using it. There is one more window associated with these settings, and that brings up the shading options, required to round off the corners of shapes such as spheres.

As all objects are composed of facets, this is a required step if you want to render realistic objects.

Animation/ Special effects

As mentioned, the appearance of the objects over time is defined from within the attribute and texture requesters. This means that objects can completely change how they look as time progresses.

It's also possible to change an object's position, by creating a path and setting up the object to follow it.

Aladdin deals with camera objects to provide the view. As with other packages, the camera is locked to a target. However, you can switch the targets mid-animation, and the camera will pan between them. You can even have multiple cameras to make cutting between different viewpoints possible.

There are three other effects which Aladdin is proud of: gases, flares and fountains. The gas system makes it easy to create areas of space which are less transparent than usual.

The volume of the gas cloud is containe

Continued on page 54 ▶▶

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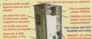
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23-15 pin adapter for A500/600/1200 **£12.95**; but for A4K	£19.95
00 keyboards (new) for A2000/3000/4000* (*adapter +£5)	£49.95
MHz capable PGA FPU for SX32Pro-50 or accelerators	£39.95
ga CDROM disks - our selection - 5 for	£10.00
00 RAM boards (clock, FPU skt)	£29.95
ga microswitched mouse with mousemat	£6.95
0/14.4 compact data/fax modems £49.95, 14.4/14.4 from	£24.95
00 Workbench 3.0 disks (5) with WB3.0 & user manuals	£19.95

Two new A1200 Expansion Products from Eyetech

PortPlus - high speed serial and parallel port expansion

- 2 x **460Kbaud** buffered serial ports with low CPU overhead
- PC & Amiga compatible parallel port transferring up to **500K bytes/sec**
- Optional high speed PC-Amiga & Amiga-Amiga **networking software**
- **Leaves PCMCIA & trapdoor free** ; accelerator friendly & very easy to fit

PortPlus - just £89.95! (WITH parallel port driver!)

New! PortJnr- 1 high speed serial port - just £46.95

Apollo Accelerators - Unbeatable pricing

A600 - **33MHz '030 with MMU & FPU exp to 32MB**		£99.95
Entry level A1200 Accelerators - Unbelievable value		
25MHz '030 with MMU & FPU. (5 Mips)	- Just	£68.95
33MHz '030 with MMU & FPU. (7 Mips)	- Just	£79.95
Power User A1200 '040/'060 accelerators (no tower req'd)		
25MHz '040 with MMU & FPU. (19 Mips)	- Only	£138.95
33MHz '040 with MMU & FPU. (25 Mips)	- Only	£158.95
40MHz '040 with MMU & FPU. (30 Mips)	- Only	£198.95
50MHz '060 with MMU & FPU. (39 Mips)	- Only	£278.95
66MHz '060 with MMU & FPU. (51 Mips)	- Only	£339.95

A Standard A1200 is rated at 1.3 Mips. All measurements from SysInfo

Memory : 4MB - *£18.45*; *8MB - £29.95; 16MB - £54.95; 32MB - £99.95*

Interface Island

Where your Amiga does more

A1200/A4000 non-Zorro	
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4-device EIDE interface for A4000	£29.95
EZ-Key **A1200-PC/A2000 k/b adapt'r**	£39.95
EZ-DF0 **interface for Sony floppy**	£14.95
EZ-DF0 **i/f, with Sony floppy & cable**	£39.95
DiskPlus DD/HD Amiga & PC 2x FDD i/f	
- **for A1200 hard drive IDE port**	£64.95
- **for A1200 clock port**	£69.95
- **for A4000 IDE port**	£69.95
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Audio mixer skts/leads for EZ-Tower	£19.95
Zorro II/III	
GG2+ - use PC cards in Z2 slots	£129.95
IDEPlus 3x2 IDE + 2x DD/HD PC & Amiga floppies. With full IDEfix CDROM s/w	£79.95

Amiga Drivers for Epson Printers and Scanners

Printed & scanned

EnPrint for the Stylus Range of printers

- Unbelievable photographic quality output
- 'Preferences' & stand-alone printing program

ScanQuix3 for all Epson scanners

- 24 bit scanning with full range of editing options
- 'Scan-to-disk' option in Jpeg or IFF formats
- Stand-alone use or integrates with your Art package (Photogenics, ImageFX, AdPro, XiPaint, Pagestream 3, DPaint5, ArtEffect, PPaint)
- ***Also available for HP, Mustek & Artec units***

EnPrint v2.1.3 - only £24.95

ScanQuix v3.0 - only £59.95

SX32Mk2 & SX32Pro *Internal* Expansion for the CD32

STOP PRESS!!!

The Award Winning SX32 Pro is now even more affordable

The SX32Pro and SX32Mk2 add ...

- 40 or 50MHz '030 MMU CPU and FPU socket (33Mhz FPU socket only on the SX32Mk2)
- Simm socket for up to 64MB of 32 bit fast (60/70ns) RAM (up to 8MB fast (70ns) RAM on the SX32Mk2)
- Buffered IDE interface for internal 2.5" hard drive ***and*** second hard drive, SyQuest, Jaz *or even 8 speed CDROM* (optional extra on the SX32 Mk2)
- Sockets for RGB video (23 pin), VGA video (15 pin), Parallel port (25 pin), Serial port (25 pin), Floppy disk port (23 pin)
- Jumper-selectable for PC or Amiga keyboard input (external adapter on SX32Mk2)

... to the CD32's existing mouse, joystick, keyboard, audio, RF, composite video and SVHS ports.

What do the reviewers say?

Amiga User Int'l	*"95% - Definitely Recommended"*
Amiga Computing	*"99% - A Dream to Use." Blue Chip Award*
Amiga Format	*"96% - Absolutely Top Notch" Gold Award*

The SX32Pro

SX32Mk2 - *sale price -*	**£149.95**
SX32Pro-50 - *sale price -*	**£299.95**
Genuine Amiga 89-key compact keyboard	£34.95
SX32 floppy, hard drives 20MB-1.8GB, RAM	*- Please ring*

All models include full pictorial fitting instructions,WB3.0 & utilities on CD and 'Click-and-Go' hard drive installation diskette

Special CPU purchase Last few - SX32Pro-40SE. A Special Edition SX32 Pro with 40Mhz '030EC processor (no MMU) - *Just £249.95*

HEALTH WARNING

"A buffered IDE interface is essential to avoid overloading of the A1200's IDE port when adding extra devices" - John Kennedy - Amiga Format - July 1997

Don't be tempted to skimp. Fit an Eyetech 4-way IDE/ATAPI 3-chip buffered expander to preserve your Amiga's Health. ***The original and best - Just £39.95***

Q. What fits in a floppy bay and reads & writes 120 MB PC & Amiga cartridges AND 1.44 MB PC diskettes?

A. The All-New LS120 ATAPI drive from Eyetech

- 120MB backup and PC 1.44MB diskette compatibility in one unit
- 120MB cartridges just £14.95 each or £34.95 for 3
- Bare drive just £119.95. IDEfix 97 and buffered interface may be needed - both available from Eyetech - please ring for details.

The Amazing Iomega *IDE* Zip Drive

Another first from Eyetech

- Can be used in place of - or as well as*- the internal hard drive
- Use a different bootable cartridge for each application or family member
- Ideal for transferring multimedia data between Amigas and/or other platforms
- ***Fits in any Amiga/desktop/mini/tower floppy drive bay or in external case***

CARTRIDGE CHANGES AUTOMATICALLY RECOGNISED!

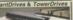
The IDE Zip drive fitted in an A1200

Bare IDE Zip drive *(inc Eyetech V2.0 Ziptools)* **- Just £119.95**

100MB Zip cartridges just £14.95/1 or £34.95/3 (*A600/1200 buffered interface needed)

A1200 *InstantDrives* & *TowerDrives*

InstantDrives and TowerDrives are only available from Eyetech



"The fastest drive I have tested on any platform ....95%" - David Taylor - Amiga Format February 1997

Important Notes!

Thinking of buying a **BIG** drive? Dont waste your money on ***ANY DRIVE OVER 4.3GB*** as the Amiga O/S doesn't support it! (2^32-1 bytes actually). Be warned!

3.5" hard drives - even those described as 'Slim' - are usually 1"/25mm high and ***will not*** fit in an A1200 without significant modifications to the case and metal shielding - which itself reduces the value of your computer.

- InstantDrives require no hole drilling, case clipping, or shield removal required and come inclusive of full fitting kit and easy-to-follow pictorial instructions
- All drives come ready-to-use with WB3.0 preinstalled & WB2.x install script.
- All drives over 350MB also come with over 45 top quality utilities (not shoveware) ***and*** MMe multimedia authoring software preinstalled, configured and ready-to-run.

InstantDrives:		**2.56GB AV(~3MB/s)**	**£219.95**
TowerDrives:		**1.7GB**	**£159.95**
2.11GB	**£169.95**	**3.2GB**	**£189.95**
4GB - Take your Amiga *to the limit!* - for just			**£249.95**

2.5" InstantDrives for the A600, A1200, SX32 & SX32 Pro

344MB	A 2.5" drive ideal for the SX32Mk2 and for the A1200/A600	£99.95
540MB	A fast, superslim drive with ample capacity for most users	£129.95
810MB	A superb, superslim drive ideal for users of serious applications	£169.95
1.08GB	The high performance superslim drive is ideal for power users	£179.95
1.8GB	This top-of-the-range drive is perfect for the A1200 & SX32Pro	£199.95

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Stokesley, N Yorks, TS9 5BB, UK

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UK m'land next day insured del'y charges: S/w, cables, buffered i/f £3; 2.5" drives, accel's, mem boards £6; manuals £7; 3.5" drives, modems, psu's £9.50; Twrs, CD+ (2day)£10

Ring/fax/email for other delivery costs

UK bank/building society cheques, Visa*, Mastercard*, Switch, Delta, Connect, Postal/ Money orders accepted. * A 3% surcharge is applicable to all credit card orders. Due to space limitations some of the specs given are indicative only - please ring/write for further details. Please check prices, specs and availability before ordering. If ordering by post please include a contact phone no. Goods are not supplied on a trial basis. E&OE. All prices include VAT at 17.5%. VAT is not applicable to non-EC orders

▲ A torus, yesterday. A torus is a quadratic primitive, and shouldn't be confused with Tori Amos, a singer.

▲ Look at the gaseous objects and lens flair in this image if you need convincing as to why they are such a good thing.

within a shape, such as a sphere.

How transparent the gas actually appears is defined by its 'turbulence', which is a measure of how much fractal noise is applied. There are many settings to experiment with, and with a little effort you can render some very realistic planet atmospheres, photon torpedoes, galaxies and candle flames.

Lens flare effects are still all the rage, and Aladdin provides these star-shaped flashes of light by cunning manipulation of bitmaps. It may seem a little like cheating, but the approach is flexible – flares can be hidden behind objects, poking through the detail on the top of your star cruiser as it slowly moves across the screen for example.

Fountain objects are really a simple particle system, used if you need a spray of small objects. Like lens flares, they are actually bitmap images. However, their movements can be quite complex: affected by wind or gravity, but are rarely worth the effort and time involved in setting up and rendering.

▼ The texture settings define the bitmap or procedural settings used to cover your objects.

File support

As well as saving and loading projects in its own native format, Aladdin is capable of loading various file formats. Files saved in the prehistoric VideoScape .geo format may be loaded, as will DEM files from Scenery Animator. LightWave objects may be inserted into your scene, and Aladdin will have a go at understanding EPS Postscript files too – although as this format varies wildly from program to program, platform to platform no promises are made. There is no support for Imagine or Cinema4D objects or scenes. I tried a CDROM of LightWave objects, but only a few would load successfully.

Brush bitmaps can be stored in JPEG format, good news, as JPEG maintain 24bit colour whilst consuming a fraction of the disk space of their IFF cousins. Bad news is that some I tried appeared as coloured mush. Rendered images can be saved as IFF or IFF24 images, though not JPG format.

Conclusions

Aladdin's documentation takes the form of a 250 page manual and some online help.

The manual is reasonable, although foolishly lacks an index. The online help is supposed to appear in an AmigaGuide window when you press the Help button. It didn't on my system, but I read it by loading into Multiview. The promised details on ARexx were missing, meaning I was unable to test these abilities.

Beneath the fancy displays and standard Amiga windows, there's nothing new or startling – most of the features are present in other rendering software. If you are an existing Aladdin fan, then you'll rush to upgrade to the latest version. Otherwise, it's not worth changing from your existing package. Aladdin is awkward to use, providing a dozen settings when one would suffice.

You can't create a sphere: you create an ellipsoid instead. If you want shadows in your scene, you must select the individual objects which cast them, and those on which they fall. This control is commendable, yet close to overkill.

There are nice touches. Its a pleasant change to get away from Imagine's multiple editor system, and stringent requirements on backdrop image sizes. In many ways, Aladdin offers more control over fundamental settings, and this will make for images which would be otherwise impossible.

In other ways, Imagine still rules – its animation system is clearer, and Aladdin's procedural textures don't get close. So where are the special animation effects? Why omit an explosion or melt effect at this stage in the game?

Aladdin isn't a true ray-tracing program, although you would be hard pressed to find examples which demonstrate this. This means, for example, that you wouldn't be able to create lens effects. Yes, this really isn't an issue, as all the important effects are modelled perfectly well. However, rendering times are nothing special given all this.

To speed things up you need to perform a lot of manual work, such as creating shadow groups. In an ideal world much of this would be automatic. It's good to see support for batch rendering, meaning you can set your Amiga up with lots of work to do whilst you make the tea, have a nap, or even head off on your holidays.

It is a bit of a relief to see software like Aladdin continue with newer versions, but I'm afraid that a tarted-up user interface just isn't enough. We need and deserve more... now more than ever! ■

John Kennedy

ALADDIN 4D V5
Developer: Nova Design

System Requirements: AmigaDOS v2.1 and up, 2Mb of memory Recommended: 68040, 10Mb RAM, large hard disk

Ease of use **70%**
Not the best. Unintuitive, over complicated. Steep learning curve.

Performance **80%**
Excellent images, and a joy to watch them appear in 24bit colour on a graphics card.

Value for money **80%**
A good program to make the most of all that new hardware you're thinking of buying.

OVERALL
Waiting this long for an Aladdin upgrade, we did expect more.

76%

"INTERNET?!
..so what will that do for me?"

Latest News

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- Latest news available 'realtime'
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- Thousands of different subjects - whatever you like, you will find information, stories, files and more.
- Professional companies online - many companies have web sites where you can read further information about their products and order online (often saving money). You can pay for tickets online, book a restaurant, find the latest weather etc

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ay multi-player online games 'realtime' such as oundation and FreeCiv. Test your skills against ther players live over the Internet!
ake part in Multi User Dungeons via Telnet - online ulti-player adventures.
ownload the latest game demos - Internet users are e first to hear and see the latest games developments nd even beta-test forthcoming titles! Offer the programmers your ideas!

Contact People, Chat Online!

- Send e-mail to your friends (and organisations) - emails take seconds to arrive anywhere in the world! You can even 'attach' files to your emails! Email can be sent, received and read 24 hours a day, 365 days a year.
- Chat 'realtime' to friends and collegues via the IRC or chat channels for the cost of a local call! Why not have a online conference with relatives from different countries all over the world? Again, all for the price of a local call!

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ales via the Internet - take orders from your web site!

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e 2 Autumn 1997 - available now!

Need more information? Want to connect but are confused about costs, what is needed etc? Issue 2 of our 'Internet Informer' tries to address as many questions as possible regarding the Internet and your Amiga! It is completely free of charge!

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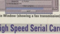
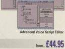
All You Need For Internet And Comms!

STFax Professional [available October] £29.95

STFax Professional is new commercial fax program for the Amiga containing the sort of advanced features you would find within commercial PC fax software. STFax has been in the shareware for the last few months, and the brand new commercial "professional" version offers even more advanced features plus voice control for voice modems - use your Amiga as a digital answer machine, create a fax on demand service (ideal for small businesses. Allows your customers to contact you at any time and use fax on demand to remotely download fascimile information about your products!) and create advanced voice control scripts. You could even set up your own voice answering service as you find when phoning large companies such as British Airways: "press 1 on your telephone to be put through to an operator, press 2 to..." etc.

- Support for all modem classes (1, 2, 2.0)
- Phonebook (store all your favourite fax numbers)
- Scheduler (store fax messages to be sent at specified times)
- Reports
- ARexx port
- Datatypes support for image conversion
- Printer driver to redirect all print-outs to a fax file (print from Wordworth, Pagestream etc!)
- Viewer for viewing outgoing/incoming fax messages
- Use your Amiga as a digital answer machine etc!
- Advanced voice scripting - create your own voice network or fax on demand service
- Plus many more features


Main Window (showing a fax transmission)


Advanced Voice Script Editor

High Speed Serial Cards from.. £44.95

The Hypercom range of high-speed serial cards offer your Amiga the fastest connection to the Internet, for comms and fax transfers. Available for the Amiga 1200 (these serial cards are placed within the internal clock expansion port - leaving the PCMCIA port and trapdoor free!), A1200 Towers and Zorro-II/III based machines (Zorro version suitable for A1500/2/3/4000 or a A1200 tower). Just lift the keyboard from your Amiga, locate the clock port and then drop in the card - easy. These cards are currently the fastest serial cards available for the Amiga (allowing upto a 460,800bps connection), making the Internet work faster for you! The Hypercom 3/3Z cards also ship with a buffered high speed parallel port which will drastically improve printing speeds on a laser or quality ink jet printer - the manufacturer claims printing can be upto 4 times faster than the standard port. The Hypercom 3/3Z cards contain a 9-pin and standard 25-pin serial ports whereas the Hypercom 1 ships with one 25-pin port. Serial and parallel drivers included. English documention.

Hypercom 3Z

Hypercom 3

Model	Machine	Specifications	Price
Hypercom1	A1200	1 x 460,800bps highspeed buffered serial port	£44.95
Hypercom3	A1200T	2 x 460,800bps highspeed buffered serial ports 1 x 500K bytes/sec buffered parallel port	£89.95
Hypercom3Z	Zorro-II	2 x 460,800bps highspeed buffered serial ports 1 x 500K bytes/sec buffered parallel port	£79.95

Vaporware Software

If you are not interested in purchasing NetConnect you can also buy Vaporware Products individually either by disk or a keyfile sent via e-mail.

	By Disk	Keyfile By EMail
Miami - TCP/IP Stack for the Amiga	£28.00	£26.00
Voyager Next Generation	£22.00	£20.00
Microdot-II	£20.00	£18.00
AmIRC	£20.00	£18.00
AmFTP	£20.00	£18.00
AmTalk	£14.00	£12.00
X-Arc	£14.00	£12.00
AmTelnet	£17.00	£15.00
AmTerm	£17.00	£15.00
AmTelnet + AmTerm Package Deal	£20.00	£18.00
AmigaNCP - Amiga to Psion 3 software	£27.00	£25.00

- 5% Discount when 2-4 Vapor products are bought, 10% Discount for 5+

Computer '97 - *the* Amiga Show!

COMPUTER '97

Come to Cologne on the 14-16th of November! The Amiga event occurs once a year at Cologne in Germany. Last year's show was more than **twice** the size of the World of Amiga with exhibitors such as Haage&Partner, Pro-DAD, PIOS, Villagetronic, Micronik, Eagle, RBM, Titan, Phase5 and many more companies who never appear at a UK Amiga show. Amiga Inc. (the new company based in the States) have already booked a huge stand! See us on the Haage&Partner stand showing NetConnect v2, STFax Professional and Voyager v3 - along with Javascript and other new features. Meet Oliver Wagner, Mathias Mischler and Stefan Stuntz! With the ability to buy more Deutsche Marks than ever you will be able to pick up some real bargains as well as witnessing the latest Amiga technology!

NetConnect v2

NetConnect v2 is even easier to connect to the Internet! Launch the new Wizard GUI, choose your modem, enter a few user details and let the Wizard do all the rest for you! Simple! With version 2 you don't even need to worry about the provider - everything is automatic, everything is point and click! **Amiga Format** concluded about **NetConnect v1** (June 97 issue): "Almost the perfect package for the Amiga Internet user", "If you need to get online, this is the easiest way to do it" and "It's good value for money too - especially the bundle including the 33.6K modem." We have listened to our NetConnect v1 users, noted their comments and added some other new features. NetConnect v2 is available on CD-rom and floppy disk.

10 Commercial Programs within NetConnect v2!

AMITCP v4.6 DIALUP
AmiTCP is a new full TCP stack, enhanced and developed by us and NSDi with full GUI control! Now comes with a Windows95™ style Wizard!

MICRODOT-II
A superb combined email and newsreader within one GUI! Contains all the major features you would expect - MIME attachments, support for POP3/APOP, full Arexx port and more.

AMIRC
Chat online with friends about topics, join conferences, organise mass meetings. The IRC is one of the most addictive elements of the Internet - AmIRC is the best Amiga IRC client.

AMTELNET
Telnet into external computers, maintain directories for your web pages, check the status of your network, play online games.

AMTERM
AmTerm is a communications package which allows you to connect to a BBS, to another user (direct link), transfer files via a serial connection (Amiga<>Amiga, Amiga<>PC etc).

VOYAGER-NG
Voted the best Amiga web browser by C Amiga - supports SSL for securing orde ing, HTTP 1.1 (for the fastest web access fastmem AGA support (use fast mem to store images) and soon Javascript! etc

AMFTP
AmFTP is the ultimate Amiga FTP client Download/upload programs from any FTP site, also supports AGT to allow you to search/download files from the Aminet,

AMTALK
A direct chat client for the Amiga. Acts as an online answerphone service for people to leave messages. You can talk directly 'realtime' to friends on the Internet.

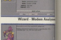
NETINFO
NetInfo is a cool tool for analysing the network and the people connected to it - finger your friends to see if they are online, ping servers to find the response speed.

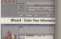
X-ARC
X-Arc is the Amiga's answer to WinZIP™ - automatically decode LHA/LZX/ZIP files, edit the contents of these archives, create your own archives. Full integrates with NetConnect v2!

Free Voyager v3 Upgrade On Release [NetConnect v2 Purchasers Only]

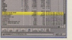
NetConnect v2 is a state-of-the-art Internet package aimed towards Amiga users wanting to connect for the first time (absolute Internet beginners), those who have been connected a few months (novices) and now, due to the keyfile nature of the software, is suitable for advanced Internet users who want to use the modules contained within NetConnect with their existing TCP stack. NetConnect v2 enhancements include:

- **New AmiTCP** - NetConnect v2 users will be the first people to use a version of the new AmiTCP! We have added a number of changes to this new version - the main additions are the new Wizard, MUI based dialler, 'events' control and a brand new redesigned AmiTCP preferences.
- **AmiTCP Wizard** - makes configuring your ISP a doddle. Choose your modem, enter some user details and then the rest of the process is completely automatic! This is true Windows95™ style connectivity! See the example pictures - point and click Internet configuration!
- **New programs** - AmTalk, NetInfo and X-Arc (X-Arc is a brand new WinZIP™ style archive management tool. Downloads lha/lzx/zip files from Voyager/AmFTP/Microdot-II, auto-extracts them into X-Arc's GUI and allows you to control the files.
- **Programs are now keyfile based** (can be used with any TCP stack - Miami etc)
- **Extras pre-configured**: MIME types (CD only), datatypes (CD Only), online help files etc
- **Updated, latest versions of the modules** (Voyager-NG, Microdot-II, AmIRC, AmFTP etc)
- **Printed installation/introduction guide** - install NetConnect quickly and easily
- **Printed manual** - using the Internet and NetConnect
- **Plus many more smaller changes and additions**


Wizard - Modem Analyse


Wizard - Enter Your Informatio

Wizard - Loginscript Recorder


X-Arc

AmiTCP Wizard

Wizard - Configuration Complete

NetConnect v2 CD	[contains many extras: datatypes, MIME types (for www browsing) and much more]	£52.95
NetConnect v2 Floppy Disks	[only contains the core programs & online help documents]	£54.95
NetConnect v2 Upgrade from v1/v1.1	[registered NetConnect v1/v1.1 users only]	£call!

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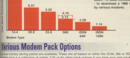
Choosing Your Modem

The graph below should help you choose the modem for your needs. For the price, a 33.6K modem is best value for money as a serial card is not absolutely necessary. A 56K modem is a good option for those wanting maximum speed but have a limited budget (the red bar shows the maximum connection speed - as most '56K' modems connect around 44-48K the extended bar shows the 'realistic' connection). You need a serial card with a 56K modem. For the true 'net surfer, ISDN is the ultimate option - solid 64K connections, constant speeds but higher running costs. Note that transfer rates can vary depending on factors such as line quality. Call for further information!



*Time (shown in minutes) taken - in ideal conditions - to download a 1MB file by various modems.

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Hydra A1200 Ethernet

■ Price: £149 ■ Supplier: HiQ Ltd © 01525 211327

Ethernet has been sorely neglected on the Amiga, the main reason being the lack of an economical Ethernet adaptor for A1200s. Big box Amigas have been catered for with overpriced Zorro cards and for a period, Interworks created an A1200 PCMCIA unit but it's now out of production.

If one wants to network several computers with cheap cable and fast transfer rates, Ethernet is the ideal solution. At a data-rate of 10 megabits, it's theoretically capable of shifting more than a megabyte per second. It turns out that the creators of one of the Amiga's first big-box Amiga ethernet cards, Hydra systems, have finally produced a new PCMCIA Ethernet for the A 600 and 1200.

It's not just a problem with drivers, apparently the Amiga PCMCIA implementation is questionable and for this reason Hydra have housed an IBM network card in a larger box which has certain electronics to 'clean up the PCMCIA signals', so Hydra say.

The box plugs into the side of the 1200 and an adaptor plugs into the rear which provides a connector for either coaxial or twisted pair based Ethernet. The former would be most common for smaller networks but each unit must be in a chain. Like a SCSI bus, the devices on the end of the chain need to use a terminator with a T-piece. If using the twisted pair options, the extra expense of Ethernet hubs comes in.

The software provided is basic but all that's really required is a SANA-II driver, the Amiga's standard driver for network hardware. Programs such as AmiTCP, Miami and Envoy will use this device to communicate with the adaptor. I got the whole shebang working with Miami in seconds. A raw file transfer via FTP to an FTP server on a local machine yielded around 350K/s which other tests also backed up as being the maximum transfer rate that the Hydra unit is capable of.

I used the Hydra with Envoy to file share with other Amigas, managing 320K/s. I'd used Miami successfully to access the Internet via EMAP's firewall and via a gateway PC also. The Siamese RTG system also now runs fully over TCP/IP and worked quickly and faultlessly with the Hydra. Despite small reservations on 'cleaning up' the Amiga PCMCIA port, I would still highly recommend this solid performing unit. ■

Mat Bettinson

PCMCIA Ethernet with Amiga?

A little before the Hydra A1200 PCMCIA Ethernet adaptor was released, news of a generic PCMCIA Ethernet card driver appeared. The driver is known to work with a particular brand and model of standard PCMCIA card. The driver can be found on the Aminet in the hard/drivr/cnetdevice.lha path or on the cover CD. If you test with a particular brand and find that all works well, please drop us a line and we'll list them with prices and suppliers in the next issue.

System Requirements:
Amiga with PCMCIA port and Ethernet cables/network

OVERALL
Good quality Amiga PCMCIA Ethernet at last
84%

Envoy 2.0

AMIGA SUPERSTAR

■ Price: £20.00 ■ Supplier: LH Publishing © 01908 370 230

It's one thing getting a TCP/IP connection up and running between two machines via Ethernet, it's quite another to do something useful with it.

Common applications of networking are Internet access and cross-machine file and printer access. The former is most easily accomplished right now by using a PC as a gateway to the Internet and then each networked Amiga gets to the net via the PC.

The next version of Miami is said to contain this function for the Amiga and it's also possible to do something like this with AmiTCP though you need to be a rocket scientist to get it working. That leaves file and printer sharing.

Normally this is happy to work on the back of a TCP/IP stack being used over Ethernet but there is no Amiga native file-sharing service that will work in this manner. There is, however, the long running Envoy system which was originally developed by Commodore and then updated to version 2.0 by IAM.

Envoy will run instead of or as well as, a proper TCP/IP stack. It's a proper file and printer sharing package so that drives and printers on one machine can be accessed on another. It also has a full range of security options so that users can be given access to only particular drives/directories and allowed to perform only some operations, such as read-only.

Envoy also handles remote printing and reconnection of the 'exported' drives if a machine crashes and restarts. This feature has been improved dramatically over the older Commodore Envoy versions as shipped with the Villagetronic Ariadne Zorro Ethernet card.

There's no product on the Amiga that does what Envoy does and yet Envoy is an extremely good networking suite. The new price is a complete steal and anyone considering proper filesharing between Amigas should consider Envoy. Envoy will use practically any SANA-II driver, so anything from a special 'MagPLIP' parallel cable (see CD-ROM) to Ethernet or even serial links can be used with Envoy.

It's a shame that Envoy is Amiga to Amiga only and that to fileshare with PCs, the headache of getting Samba (see CD-ROM again) installed is still necessary.

Still, if you are in the situation where Amigas need networking, Envoy is the complete business and you shouldn't think twice about picking it up. ■

Mat Bettinson

System Requirements:
Any Amiga with OS 2.04 and a network with SANA-II driver

OVERALL
The Amigas definitive networking software
92%

OxyPatcher

■ Price: DM39 ■ Supplier: Oxyron ✆ +49 (0)5465/ 99 23 (Available by E-mail only outside of Germany)

Jason Compton takes a look at some special software that promises to speed up 68060 based accelerators. Oxpatcher is go!

An '040 or '060 system is better than any '020 or '030 system you could put together.

One of the reasons is that the FPU (floating point unit) is built right in to the main processor. This is very, very important if you want to do graphics work, particularly 3D, with any sort of speed.

To incorporate the FPU (the Motorola 68882) into the '040 and the '060, some shortcuts were taken. An '040 does not actually have a full 68882 instruction set – it has a very fast internal FPU unit which recreates most of the functions of the 68882 while others are emulated with the help of the '68040.library' that comes with Workbench.

The '040 will handle those FPU functions it does support very quickly indeed, using less clock cycles to perform each function, but those it does not can be a major bottleneck. The '060 is quite a similar story, butanother layer removed – it is even faster but has yet more instructions that need to be emulated.

Incomplete 68882

So while an '040-based system will beat an '030+FPU system in rendering, and an '060-based system will beat an '040-based system, the '040 and '060s are capable of doing so much more. The problem is that the vast majority of Amiga software is making calls to old 68882 instructions, instead of using only the remaining FPU instructions.

Phase 5 was clever enough to recognise that customers of their 060 boards expected a high level of performance, so they created the CyberPatcher. CyberPatcher sits in tbe background of a Phase5 060-equipped Amiga and can speed up applications which access the FPU by 'patching' the program to use existing 060 FPU instructions. This results in significant speed gains and an advantage over other 060 implementations, like those on the Apollo cards.

This has been limited to Phase 5 cards until Oxyron released the OxyPatcher, intended to work on all Amiga 040 and 060s.

◀ What this may lack in cinematography, it makes up for by being a good benchmark.

Using OxyPatcher

OxyPatcher requires a special program to be run as the first line in your startup-sequence.

You can configure OxyPatcher to run automatically on startup, or you can call it at any point during your session. There is absolutely no speed advantage to the OS itself but unlike CyberPatcher, OxyPatcher comes with a configuration and status window which you can call from Workbench. It lists the FPU instructions currently being patched (by whatever program you are running or have run that accesses them), and a few user-configurable fields.

OxyPatcher should then be more or less transparent, although the documentation indicates that if you are using your native Amiga display rather than a graphics card, you may notice that the screen flashes during patched instructions. I didn't encounter this during tests and also didn't encounter any software that OxyPatcher would not run.

However, its patch program seems to be incompatible with the patch program for the new Mac emulator Fusion. Shapeshifter's patch program functions properly and SS can still be run without difficulty.

Non-polished patcher

OxyPatcher is not the most polished of programs. The GUI and online documentation (which is the only kind) features broken English, often missing essential points.

It also provides a set of speed tests which, if not actually cooked books, do seem to have been staged for Oxypatcher's benefit, promising 3-5X or more speedup on your 3D work.

For installed users of Phase5 060 boards, OxyPatcher doesn't offer a whole lot. For the rest of the 040/060 world, however, OxyPatcher offers a new way to exploit your Amiga's power. ■

Jason Compton

Test Interpretation

Benchmarking these patchers is best done with real-world 3D rendering performance. Three tests were conducted – two in Cinema4D 4, one in Imagine 4 .

Test 1: C4D Raytrace, 800x600, DS9+Enterprise	
Unpatched:	954 sec.
OxyPatched:	513 sec.
CyberPatch:	493 sec.

Test 2: C4D Raytrace, 800x600, Staircase example file	
Unpatched:	281 sec.
OxyPatched:	168 sec.
CyberPatch:	161 sec.

Test 3: Imagine raytrace, 640x400 render	
Unpatched:	344 sec.
Oxypatched:	325 sec.
CyberPatch:	342 sec.

If you're a Cinema4D user, these numbers should make your eyes boggle. While CyberPatcher does have a slight edge here, OxyPatcher still offers massive gains (nearly a 2X speedup!) . The Imagine results are curious, notably in that they do not match up with the results we found using this on the Apollo 1260/66 board tested last month. Using smaller renders we got the results:

Unpatched:	126 sec.
Oxypatched:	27 sec.

Clearly the results from last month are vastly better, and to be honest we aren't sure exactly why. Specifics of the render, external patches and the version of the '040 library used may have something to do with it. However the lesson is clear, if you have no patcher yet, you're crippling your processor for this kind of work. Oh, and it makes TFX go like the clappers.

OXYPATCHER

Developer: Oxyron

System Requirements:
An Amiga with 68060 accelerator

Ease of use The patcher and the configuration aren't friendly.	75%
Performance It will speed up the 3D apps you're likely to be using.	90%
Value for money The alternative is buying a phase 5 060 board. Good deal.	95%

OVERALL
OxyPatcher makes the fastest go faster. Fast is good.
90%

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VisualFX

■ Price: US$199 ■ Supplier: Visual Inspirations Inc. ✆ +1-813 935-6410

VisualFX turns ImageFX into an instant eye-popping effects machine, for both single pictures and frame sequences, by just answering a few questions.

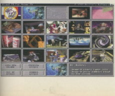
▲ VFXIFX's magnifying glass effect is very convincing and takes seconds to generate.

Sometimes, software can seem to be almost magical in the things it can do. Visual Inspirations VisualFX for ImageFX is one of those times.

Nova Design's ImageFX is, perhaps, one of the most capable graphics manipulation packages ever released for the Amiga. It rivals Wintel and Mac products many times its price, and does many things they can only dream of doing.

But all this power comes at the price of learning how to use it. While the simple stuff (image format conversion, cropping, scaling, applying some filters, changing image balance, adding text, etc.) is easy, few people spend enough time learning what the program is capable of, or don't have a large enough knowledge of ARexx to be able to automate effects and processing over a series of images.

With VFXIFX, long time Amiga developer Jeff White's company, Merlin Software, has delivered perhaps the ultimate 'plug-in' for ImageFX. Using it, I've been able to achieve effects that are at once so beautiful, and so easy to do, it startled me.



Canine capers

Jeff is a master of ARexx; that much is obvious. His scripts make ImageFX rear up on its hind legs and bark like a dog. And yet VFXIFX goes way beyond just a pile of scripts. VFXIFX is delivered on a CD and a floppy disk. The CD alone can serve as a demo. The floppy contains ingredients to install everything to your hard drive and make it work. Naturally, you must also own ImageFX, a hard drive, and plenty of RAM would be extremely useful. AGA and graphics cards are not required. Nor is a Video Toaster or Toaster Flyer, although VFXIFX is also designed to work directly with them. Thus it's fine for PAL use in markets where Toasters never sold.

Running VFXIFX also launches ImageFX, and presents an attractive interface (in your choice of 4, 16, or 256 colours) with thumbnails of the transitional effects it can perform. Click a thumbnail and see a description and an animation of that transition play. You don't have to try to remember "what does #12 do?" because there it is, both in words and pictures.

A kind of magic

Once you've decided on the effect you want to use, click the [set up effect] button and VFX will open requesters right on ImageFX's screen, prompting you with questions and file requesters and waiting for your input. Once you've told it what you want to do, and on what images to do it, VFX has stored the effect, ready for you to choose another (for unattended batch processing) or click the [render effect] button, and just sit back and watch it happen like magic. (It's probably not a coincidence that VFXIFX's icon is a picture of a magic wand tapping an eye!)

Your processed frames are saved out of ImageFX in your chosen format, and after that's done you can compress them into animations, record them to single frame recorders, or whatever else is your goal.

And what effects they are! How about a glowing flame eating it away from the centre like the titles of the old 'Bonanza' series, over the shoulder 'PIP' shots, animated bubbles for an underwater sequence, swirling, twirling, tearing, flipping sequences, tons of compositing options, scrolling backgrounds, letterbox overlays, moving brushes, rack and focus, camera zooms, moving spot lights, travelling glints, animated lens flares, moving magnifying glass... plus a whole load more.

VFXIFX's rendering choices are like opening a candy box – you can't decide which one you want to try first. This is truly a superlative add-on for ImageFX from a long-time Amiga developer whose products just keep getting better and better. ■

Harv Lazer

VISUALFX
Developer: Merlin Graphics

System Requirements: ImageFX by Nova Design. ARexx and 20Mb HD space, AGA or Graphics card recommended.

Ease of use **98%**
Stupendous, professional effects with no ARexx knowledge required.

Performance **95%**
The faster your Amiga, the faster the results. An 030 will get the job done. An 060 makes it very entertaining indeed!

Value for money **95%**
A unique product. This is the kind of thing computers were made for.

OVERALL
This is the ultimate plug-in for ImageFX so far. Fantastic.
96%

Epson Stylus Photo

■ **Price: £380** ■ **Supplier: Epson UK** © **0800 289622** **http:// www.epson.co.uk**

It may look just like any other of their printers, but this time Epson appear to have mastered the art of creating life-like reproductions.

Over the years, printer manufacturers have strived to create a desktop printer that can produce true photographic results. Until recently, you either had to pay tens of thousands of pounds for such an animal or buy a dye sublimation printer. Epson UK have changed all that by coming out with the Stylus Photo, one of a number of Photo Studio products including digital cameras and slide scanners.

The Stylus Photo looks very similar to other Epson Stylus printers but instead of using four colours it uses six. The two additional inks, Light Cyan and Light Magenta, are to improve highlight rendering when printing photographs and is especially useful when dealing with subtle areas like flesh tones. I first tested the Stylus Photo from a PC along with my own Stylus 1520. The Stylus Photo certainly lived up to the hype, instead of seeing the dots of colour visible in flesh tones from the Stylus 1520, the output from the Stylus Photo was almost perfect with little or no discernible dithering.

The Amiga question

But, will it work with our favourite computer? Well, after attaching one to my A1200 for a short while, the answer is yes but there are some points worth noting. First, I currently have to use the Stylus 500/Stylus II driver to output to the Stylus Photo. This worked with both TurboPrint 5 and Studio II. I found that the subtle shading I was able to get when driving the printer from the PC using a dedicated Stylus Photo driver, wasn't reproduced when using the Amiga and TurboPrint 5 – the better of the two packages I tried. The quality however should improve when IrseeSoft finish creating a dedicated driver for the Stylus Photo, something that shouldn't take too long as they now have a Stylus Photo to work with. I'm not entirely sure what's happening with Studio II on this front or EnPrint for that matter.

That said, the output on the Amiga isn't as bad as perhaps I'm making out. In fact, for many, the output is stunning, especially on the glossy paper. What's missing is the subtle shading the extra inks bring and a dedicated Amiga driver to take advantage of them. Importantly this driver situation was the same when I reviewed the Epson 600, but it wasn't long before a driver appeared for it with the popular TurboPrint 5.

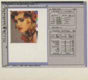
Dedication

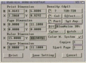
To conclude, the Epson Stylus Photo is brilliant if you are going to be printing photographs quite a lot, because, with a dedicated driver it performs better than any other ink-jet printer this side of £500 that I've seen. Those of us using the Amiga will however have to wait a short while for that dedicated printer driver, but I'm sure the delay will be worth it.

The Stylus Photo certainly proves that despite a maximum resolution of 720dpi, it can produce better quality than its higher resolution cousins but this comes at a price. I expect those five colour ink cartridges will also be a little more expensive to replace than their three colour equivalents.

Personally, if my budget weren't a problem I'd go for the Stylus Photo. You really have to see its photo quality to believe it. In many respects, it produces images *better* than real photos which can often be blurred. Yet another winner from Epson. ■

Larry Hickmott





Print Dimension
W 4.0643 H 6.0004
X 1.2060 Y 0.8292
Page Dimension
W 8.0000 H 11.1000
X 0.0000 Y 0.0000
Ruler Dimension
X 15.0000 Y 11.5475
Paper Dimension
W 8.0000 H 11.1000
Density (dpi) 7 720:720
Col
Port
Dit BlueNoise 30%
Color M. System ✓
Copies 1
Start Page 1

◀ **Far right:** Despite having drivers for the latest Epson Stylus printers such as the 400 and 600, TurboPrint 5 does not have one for the Stylus Photo.

Specs in brief

- 6 Colour Ink-Jet Printer (Black, Cyan, Light Cyan, Magenta, Light Magenta, Yellow)
- MicroPiezo technology with Quick-Dry Inks
- Resolution - 720 x 720 dpi
- Interfaces x 2 (Parallel & Macintosh)
- Input Buffer - 64Kb
- Print Margins - 3mm Top, Left & Right. 14mm Bottom
- Ink Cartridges - 1 Black (SO20093), 1 Colour (S020110
- 6x4 Photo Paper (S041134)
- Weight - 5.2Kg
- Dimensions - 168mm x 429mm x 275mm
- Paper Sizes - A4, A5, Letter, Legal, B5, 6x4, User defined
- Paper Weight - 64 to 90 gsm.
- Amiga Printer Drivers - Stylus 500 emulation in place of dedicated driver
- Print Heads - Black x 32 Nozzles, Colour (x5) 32 nozzles
- Warranty - 1 year Return to Base (Optional 3 year warranty available)

EPSON STYLUS PHOTO

Developer: Vaporware

System Requirements:
Print Enhancement Package, WB2 or later.

Ease of use....................91%
Printer couldn't be easier to operate although configuring a printer driver depends on the package chosen.

Performance....................90%
Print speed depends on how quick your Amiga is. Quality is superb with a dedicated driver which shouldn't be too long in coming for us with Amigas.

Value for money....................88%
Does seem pricey, but I'm told prices are being reduced.

OVERALL
Does a good job of photographs but lacks a proper Amiga driver. **89%**

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Will run with Amiga 2000/3000/4000 with Kick/WB3+ but needs Zorro bus Ethernet upgrade £49.95
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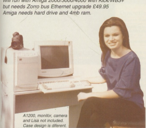

A1200, monitor, camera and Lisa not included. Case design is diferent.

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PD Scene

Temporarily filling Mr Korn's size nines is Jon Brooker, who strides his way through this month's choicest PD titbits.

★★★★★	Totally blinding
★★★★☆	Good
★★★☆☆	Average
★★☆☆☆	Substandard
★☆☆☆☆	Oh dear

Ami Bee

■ Vertical Scrolling Shoot 'em Up

■ Available from: Classic Amiga PD, 11 Deansgate, Radcliffe, Manchester M26 2SH Tel: 0161 723 1638

■ Price: £1 plus 75p P&P per order

In this Amiga version of a popular Bee related Nintendo game, you are required to guide our hero through wave upon wave of nasties. A collision with any of them or the many bullets they fire at you cause you to lose one of your lives.

Clouds add to your problems as they can mask wandering bullets. You can get power-ups or bonus points by shooting at these clouds as they glide happily by, thus releasing, naturally enough, a bell, which must then be caught. Shooting the bells after they are freed from their clouds can cause them to change colour. Beware if they turn black, as contact with these will cause death. Below you, pleasant trees and villages can be seen, oblivious to the fighting going on above them.

The action is fast and furious, and your bee moves smoothly so complex dodging manoeuvres can be achieved. The graphics are fine and this is a playable little demo. The title screen lists a multitude of additions which will be included in future versions to make this a more complete game. Highly derivative, but still mildly entertaining. This may be worth looking at, especially in a later incarnation. ★★★☆☆

Brazzle Atkins

Teddy

■ Bomber Man Puzzle Game

■ Available from: Classic Amiga PD, 11 Deansgate, Radcliffe, Manchester M26 2SH Tel: 0161 723 1638

■ Price: £1 plus 75p P&P per order

One of the best things about the Amiga software scene is that it is so international. The advantage of this is that you get share-ware like this with introductions that are in comedy English.

The game itself requires you to guide Teddy, for whatever reason, through the various screens collecting all of the gems before making his way to the exit. His path is blocked by lots of stone blocks which he has to blow up by leaving bombs in the adjacent squares. Trying to escape to the exit before all of the gems are collected leads to a premature loss of life.

In the pre-game build-up, this is billed as just a bit of fun, which is lucky really because it's not very good. The screens can hardly be described as fiendishly cunning, as it's just a matter of blowing up blocks until you find the squares that open the doors. And as for the baddies who have been left to stop you, fiendishly cunning does not even get a look in. Their movements are completely random which takes a lot, if not all, of the skill out of killing them. When they finally realise that you are there (ie; when you are in the adjacent square), Teddy's movements are too slow and cumbersome to allow him to escape, meaning death is a certainty as both Teddy and baddie alike can walk past the primed bombs at will. Vaguely entertaining but ultimately slightly dull. ★★☆☆☆

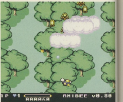
Brazzle Atkins Collection

■ Old Demo Selection

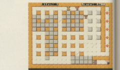
■ Available from: See below

This set of revamped A500 demos mark the resurrection of the legendary Brazzle Atkins, a man with a penchant for all things of a psychedelic nature.

Mr Atkins has gone to a certain amount of trouble hacking and fixing these demos so they run on your A1200, utilising its improved graphics capability. Furthermore, by allowing them to be dumped straight into RAM, you are now able to view them smoothly and without loading delays. As befits these masterpieces, they are available, in limited quantities only, in a glorious signed and numbered boxed set.



Ami Bee



Teddy

The box contains four digi-movies (Laurel & Hardy, Horror Show, Monty Python and Clockwork Orange), which require 2Mb of Fast RAM to run, Chaos Rock and Erpland, and the marvellous Reincarnation Of Sgt. Pepper. This trippy demo plays Lucy in the Sky with Diamonds over related pictures, animated by the constant colour scrolling. The movies are worth a look, but come with an advisory notice, particularly the one entitled Horror Show (Directors Cut). Computer images of Heads exploding can cause offence, even in artistic shades of grey.

We were sent the set in a lovely video case collection box which added a nice professional touch. These demos can be obtained either individually or in the video-box (if there are any left), try Classic Amiga PD, Saddletramps, or your usual library. Well worth a look, particularly if you are of a psychedelic disposition. ★★★★☆

Metal Mayhem

■ **Gothic band promo**

■ **Available from: Saddle Tramps PD, 1 Lower Mill Close, Goldthorpe, Rotherham, S63 9BY Tel: 01709 888127**

■ **Price: 80p plus 50p P&P**

This disk is a public airing of the works of a cheerful bunch of lads and their band which is called Genocide.

The band comprises three members who hail from the mythical depths of Tottenham in North London. They have added to the shroud of mystery which surrounds them by giving themselves the Tolkienesque names Glorfindel, Turin and Morgoth. Well, I'm guessing that these are assumed names, but I could be wrong.

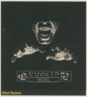
The disk contains seven songs and seven pictures which can be accessed by some simple mouse clicking action.

The tunes, which revel under such Tolkien inspired titles as Gollum, Riders of Rohan and Saruman are aimed at those who like to be a bit moody and a bit heavy metal. Profiles of the band members include lists of their favourite bands, in which recurring themes are Iron Maiden, Carcass, Def Leppard, Death, Mega Deth and so on. This rather morbid list of names (which, rather sloppily I feel, excludes Death in June, poor work fellas) gives you a taste of the type of music you can expect, as do the band photos which are shot in graveyards and outside of churches.

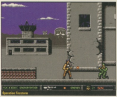
As there are only three band members and one group shot, the symmetry of seven tunes and seven pictures is made by three scanned images with a vaguely Tolkienesque feel. Perhaps unfortunately, this is quite a reasonably put together little showcase for the works and interests of this group of IT students with a love of dour music. The main menu is laid out quite sensibly and the music and images are summoned relatively quickly and easily. If there is anything at all that lets it down, then it has to be the quality of the samples.

But if you share a love of Carcass, Cradle of Filth and photos of students hanging around in graveyards, you well may want to check this out. ★★★☆☆

Brazzle Atkins



Metal Mayhem


Operation Firestorm

Operation Firestorm

■ **Green Beret Clone**

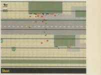
■ **Available from: Saddle Tramps PD, 1 Lower Mill Close, Goldthorpe, Rotherham, S63 9BY Tel: 01709 888127**

■ **Price: £3.95p plus 50p P&P.**

By straining my memory a bit, I can remember when Green Beret was released onto home computers such as the C64 and the Spectrum amid a blaze of publicity. I can also remember that after loading it up I was left wondering why I had bothered, so perhaps I am not in the best position to comment on this game. But I'm going to anyway.

Your mission is to guide your single soldier (who admittedly has more than one life) over various crates and barrels, past seemingly endless hordes of enemy soldiers armed only with his gun and his wits. I forget why he's doing this, but I don't think its important. His task is made easier by the fact that various crates have been left along his route which, when shot, collapse to reveal weapon power-ups, extra health and so on. But beware, some boxes also contain bombs which will blow up in his face if he gets too close.

The game is played out in a bland, two-dimensional world, where interaction with the background is limited to the objects and ledges that the writers decide are solid. I always want to step around the barrels, not jump over them, or go and investigate the truck in the middle distance, but this just is not an option in the flat world of Operation Firestorm.


Shoot

Success in this game is best achieved by learning the route and knowing whether it is best to face the next set of baddies from on the floor or up on top of the wall. Its fun when your weapon gets the flaming bullets, because then it doesn't matter what route you take, you are still going to kick arse.

Clearly time and effort has gone into creating this game, and if it was freely distributed share-ware, I might be more prepared to concentrate on its virtues. However even from a budget release, I would hope for more creativity/originality. ★★☆☆☆

Shoot

■ **Overhead view shooting game.**

■ **Available from: Saddle Tramps PD, 1 Lower Mill Close, Goldthorpe, Rotherham, S63 9BY Tel: 01709 888127**

■ **Price: 80p plus 50p P&P**

The aim here is to guide your soldier through the enemy base to the HQ, where it ends. On your way you must pass several buildings which generate endless other soldiers who'll try to stop you reaching your target by shooting you. Fortunately they only fire one bullet every few seconds, whereas you can deliver a hail of leaden death. Also, by remaining stationary then holding down the fire button and rotating, you can strafe the immediate area for maximum death action. However, your rapid fire advantage suffices.

The demo opens with a mental picture of a soldier and a rousing tune, which filled me with great hope. Alas, I began to worry at the time it took to draw the screen, and worried more at the speed my soldier crawled across it. The collision detection is fine, I tended to know when a bullet had found its target, apart from occasions when either I or the enemy chose to disappear for a few seconds. I also found that living enemies could effectively disappear in a heap of their dead comrades. Given the title of the game is 'Shoot', I don't expect you're meant to look too closely at whether they're alive or dead.

It's the slow speed at which the characters move around that was the downfall. You can get all the way to your destination, and its fun to kill little blokes, but after a couple of minutes, I was quite happy to give up the quest and let them shoot me. ★★☆☆☆

PD Utilities

Andrew Korn takes a good, long shifty at a handful of top-notch utilities... observing a selection which ranges from the educational right through to the musical.

★★★★★	Totally blinding
★★★★☆	Good
★★★☆☆	Average
★★☆☆☆	Substandard
★☆☆☆☆	Oh dear

Utility of the Month...

Name: Tutenkhamun

- **Type:** Educational
- **Available from:** Online PD, Unit 5, Embassy Building, 51A Piercefield Road, Formby, Liverpool, L37 7DG. Tel 01704 834335.
- **Price:** £1.50 2 disks + 75p P&P

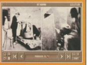
There's a fair demand for decent educational software judging by the number of people who ask us about it. There's actually a fair bit of it around on the PD scene, but unfortunately a lot of it is so unprofessional it is worrying. Tutenkhamun, an ex-licenceware title now being carried at normal price by Online PD is a happy exception.

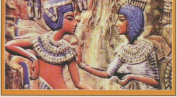
This package impresses nicely, once you have got past the Amos installer routine (please guys, Amos is about the worst possible thing to use to write installers with, spare me!). In the July issue of CU Amiga you may have noticed that I raved over an educational title about the Titanic. This one is basically an identical package but about the Pharaoh Tutenkhamun and the background history of ancient Egypt.

Layout is all nice and straightforward, with a big list of on-screen gadgets to navigate around by, divided into groups by subject matter (ie. pictures, diagrams, background history etc.). You can click your way through in pretty much any order you like, and view the pictures either one at a time as seems appropriate to the text or select slide show mode. Once you have examined all the information available to you, there is a quiz for you to test out how much you have taken in.

The pictures are well scanned and relevant, the text literate and interesting, and all the preferences options ensure that the working environment is conducive to learning – no irritating music here, you can choose from five or have none at all.

Finally, this is very well researched and a nicely presented package which might not have the gloss and expertise of a professional package but is a damn fine piece of PD. ★★★★★





Directory Opus Help Guide

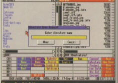
- **Type:** Book
- **Available from:** Christopher Jeffery, 45 Apollo Drive, Crookhorn, Waterlooville, Hants, P07 8AD
- **Price:** £7.50 inc P&P

This is an interesting and unusual offering, a self published book instead of a self published disk. Christopher Jeffery has directed his literary talents at producing an in-depth guide to the workings of Directory Opus 4. Liberally sprinkled with tips, step by step guides and screen shots, depth is impressive.

The introduction clearly explains the functional blocks of Opus 4, which is exactly what it needs to do. It then gives a complete explanation the configuration of screens and how to tune Opus 4 to your liking.

One of the most useful features of Opus is the filetype handling which allows Opus to recognise what ought to be done to a file. There are a some presets, but you can define your own. The guide has a clear explanation of the process and step by step guides for filetype recognition of Lha, Lzx, Zip, Zoo, DMS, Gif, Jpg, Pcx, Fli, Mov, Mpg, Midi and Wav types. A similar if briefer set of instructions cover adding your own buttons.

The whole thing comes in 50 loose leaf single sided A4 pages, which you'll need to hole punch and stick in a folder before all the pages disappear. Production quality is reasonably good, with clearly laid out pages and a logical progression. The only real downer is the lack of



Directory Opus Request

Enter directory name

Directory Opus Help Guide

chapters, which would help navigation.

Plenty of people need some help on Opus 4, since we cover mounted it a while ago without a full manual. I think that the rather trickier Opus 5, which we cover mounted more recently, would be a more topical subject, but if it's 4 you want help with, this is the monkey for you. ★★★★☆

Basic Note Tutor V2

- **Type:** The name says it all
- **Available from:** Gordon McHendry, 6 McIver Terrace, Huntly, Aberdeenshire. AB54 8LF.
- **Price:** £3 inc P&P

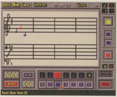
That's what I like to see, software which comes clean and tells you what it is all about. A delightfully garish purple floppy disk with a label on it saying 'basic note tutor' and a picture of some music staves. When you sort through a crate full of PD disks with nothing on them but a cryptic name such as Amiborg or YABMWAG, that kind of thing stands out. When the software stands out, it's even better.

Basic Note Tutor, thankfully, does stand out. Not because it is the greatest software on the planet, but because it does the job it sets out to do cleanly, competently and without any fuss. The idea behind this program is to supply an easy and fun route to learning the basics of reading musical notation.

In operation, BNT is very straightforward. The main menu screen offers help options, high score tables and so forth. Entering the main screen you are presented with a bass and a treble stave and a number of gadgets which at first look confusing but with reference to the quick start guide soon become clear.

The object of the 'game' is to follow the program's musical lead. A note plays and appears on a stave, and you have to figure out what it is. Get it right and you score a point and the note turns blue. Get it wrong and the program tells you what it should have been. You can play on either stave or on both, and there is a teach mode which allows you to hit the notes and see where they should appear. You can set the amount of time you have to think about it, so in theory you can keep going until you get adept at reading notes.

BNT may be programmed in Amos Pro, but I'm almost prepared to forgive it that. You won't learn theory from this, but very much along the lines of a decent typing tutor it will teach you notation without the traditional tedium involved. ★★★★☆



Basic Note Tutor V2

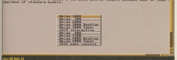
Class HD Utils 24

- **Type:** Utilities compilation
- **Available from:** Classic Amiga PD, 11 Deansgate Radcliffe, M26 2SH Tel: 0161 723 1638
- **Price:** £1 plus 75p P&P per order

Classics compilation disks reach number 24. You might think that at 24 they would be starting to wear a little thin. Not a bit of it. At 24 disks, this still represents around 3% of a CD, and with 20 CDs worth of Aminet to pick from for starters, Classic really ought to be able to pick out the cream for their floppy disk creations.

What you'll find on this disk, in short order, is AMguide, an Amiga guide about the different models of Amiga, the latest issue of Jason Compton's excellent Amiga Report magazine including a preview of the HTML version, Blizzkick, a major bonus for Blizzard accelerator owners, Disksafe, which stops disks being invalidated by an incautious reset, Fixdisk in case you forgot to use disksafe, an Amigaguide for hard drives, a GUI bootblock installer, a hack to use cd32 controllers as mice, yet another password protection thingy, NewReqLibs, SuperDuper and Version Copy.

If you have a CD-ROM drive, then a few cover CDs will see you fine on the small utils front, but if not these Class HD utils are a good way to go. Another solid collection from the guys at Classic Amiga. ★★★★☆



```
These are the main specifications of all Amiga computers sold from the A1000
to the A4000 Tower.  I haven't included special models because most of them
upgrades of standard models.

Amiga 1000
Amiga  500
Amiga 2000
Amiga 3000 Desktop
Amiga 3000 Tower
CDTV interactive
Amiga  600
Amiga 1200
Amiga 4000 Desktop
Amiga 4000 Tower
CD32 game console
```

Class HD Utils 24

Best of Aminet

It's all go on the Aminet again after last month's hiatus, and the big Amiga revival is happening here as much as anywhere else. Even the elusive Lyle Zapato has been lured out of hiding to release an overdue update of Mindguard. If you are one of those people who didn't notice that we put this excellent package on our coverdisks about 6 months ago, you're the ones who need this package most. Go to utils/misc/MindGuard.lha (66k) and download this psychotronic influence jammer at once. The author's own LZ1 and LZ11 decryption algorithms make this about the best psychotronic jammer on any platform.

Just to prove the international flavour of the Aminet, here are a couple of foreign language items. The lovely Automatic Insults and Flowers Launchers util/wb/CdBS_AIFL1.53.lha (61k) constructs either insults or flowers (compliments). It will sit happily in the background scrolling its random messages across your menu bar at predetermined intervals. What's more, if messages like "Notre copain Billou est un protozoaire" aren't your tasse de thé, you can edit a text file for your own language. For German speakers I have picked out docs/hyper/smurftvguide.lha (63K), a guide to those foul blue midgets known in Germany as the Schlumpfs. Germans with taste may wonder why I picked this one out – possibly by sense of the absurd, possibly my revenge for your attempts to force us English to consume your highest quality beers instead of our own home-brewed sludge.

You've probably heard of Tamagotchi, the toy "virtual pet" craze which has been gripping the world. Now the Amiga gets in on the act with game/wb/tama.lha (36K), a Tamagotchi Simulator. If you like more sophisticated graphics than a mono LCD game can provide, check out demo/intro/DKG-Crash.lha (63K) where you can witness a fearsome looking racing game graphics engine. Finally check out Thierry Dichtenmuller's recent raytraced uploads, including pics/trace/chess.jpg (61K), and this month's winning pic.

Why Apple?

One day we all hope to see the rebirth of the Amiga with a PowerPC processor and other new features to enable it to compete again with today's systems. Sadly though, more than 2 years since Commodore's demise, little of substance has actually happened. We've seen prototypes and heard promises... we all hope to see new Amiga developments.

If you can't wait and need more performance today, without paying the earth - there's only one real alternative to consider... There's never been a better time to think Apple!

Only Apple offer you both desktop and portable computers that truly match the ease of use the Amiga brought to your desktop. Affordable Apple Macintosh systems have PowerPC RISC processors with thousands of off-the-shelf programs available in areas where the Amiga was always previously so strong.

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PM5500 Black Mac	225	603e	32	2.0Gb	✓12	15" Integral	S/W 2500	✓	✓	✓33.6	Design	£1549	FAMILY PACK
PM6400	200	603e	16	2.4Gb	✓8	✗	✗	✗	✗	✓28.8	✗	£1820	HOME OFFICE
PM6400	200	603e	16	2.4Gb	✓8	✗	✗	✗	✗	✓28.8	Design	£974	HOME OFFICE
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PM6500	250	603e	32	3.0Gb	✓12	15" AV M/S	S/W 2500	✗	✗	✓33.6	Design	£1938	HOME OFFICE
PM6500	275	603e	32	4.0Gb	✓12	15" AV M/S	S/W 2500	✓	✓	✓33.6	Design	£2466	CREATIVE STUDIO
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3400c/180	16/1300, AM	LIMITED OFFER! WSLI	£2819
3400c/180	16/1300, AM, 12 Speed CD, Ethernet		£3171
3400c/200	32/2000, AM, 12 Speed CD, Ethernet		£3641
3400c/240	16/3000, AM, 12 Speed CD, Ethernet		£4346

Type of PowerBook Display:
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Why Macintosh?

Performance:

All Macs have the latest PowerPC *RISC* processors (poor old Pentium systems are still *CISC* designs). Even entry level desktop Macs run at 180MHz, with 350MHz powerhouses at the top of the range (Mac PowerBook portables offer up to 240MHz).

Software choice:

Over 1,800 native software packages (written specially for PowerPC Processor Macs) have been shipped since Power Macintosh was launched in 1994 - plus there are thousands of industry standards which can also be used. Industry standard programs such as Microsoft Word and Excel, Pagestream, Word Perfect, FileMaker Pro, Quark Xpress, Photoshop and many others were developed for the Mac.

Creativity:

- Macintosh still dominates the creative world with an 80% market share in colour publishing.
- 65% of post-production video editing is on Macs.
- Macintosh is the most widely used system for the creation of Internet web pages.
- Most magazines (including the one you're reading right now) are created on Macintosh.

Multimedia:

- Apple is the World's No. 1 Multimedia PC vendor.
- All desktop Macs have a fast CD-ROM drive as standard (many portables have internal CDs too).
- In 1995, 42 of the top 50 selling CD-ROM titles worldwide were developed on the Macintosh.
- Many Macintoshes have built-in TV with teletext so TV clips can be recorded directly to disk as QuickTime movies.
- Many Macintoshes have built-in video in and out, for direct recording to VCRs.
- Some Macintoshes have internal digital video editing facilities as standard and many others can include this facility with an easy upgrade.

ISDN, the Internet & Communication:

- Macs are Internet/e-mail ready and many include modems with full send/receive fax and answer phone. Adding an ISDN connection is easy.
- Industry standard web browsers, Netscape Navigator and Microsoft Internet Explorer, were developed for the Mac meaning Access to Worldwide Web sites is easy.
- QuickTime, the Internet's standard format for video files, or QuickTime for Windows, are both Apple products. Of course QuickTime comes as standard with every Mac.

Connectivity & Expandability:

- Unlike other PCs, all Macs have networking built in as standard, so connecting systems together and adding shared printers etc. couldn't be easier.
- All Macintoshes have an external SCSI connector as standard. Adding external drives, ZIP/JAZ and other cartridge drives, scanners etc. really is Plug-and-Play.
- Low-cost digital cameras can be plugged into the Mac for instant real image input.

Education & Edutainment:

- Being the World's No.1 education supplier, quality Macintosh titles are widely available. Dorling Kindersley offer superb packages like The Ultimate Human Body and there is a varied supply from other leading software publishers too.
- Because Macintosh is the preferred system within many educational establishments, high quality software is assured.

Recreation & Games:

- Top games like The Ultimate Doom, Myst, Rebel Assault II, Dark Forces, Descent, Afterlife, Lost Eden, Legend of Kyrandia, Full Throttle & The Dig have all been developed for Macs.

Output & Presentation:

- Connecting and using colour printers (from Epson, HP, Apple and others) to Macs is so easy and with photo quality output the results are truly outstanding.

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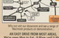

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Light Rom 5

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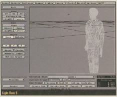
Graphic Detail's Light ROM CD collection hits number 5 with this 3 CD gathering of Lightwave, Imagine, and 3D studio objects. The Light ROM collection is drawn from contributions from 3D artists around the world, all contributors accepted getting a free copy of the next disk. As a result the quality of the models varies a bit, as does their copyright status.

The first CD consists of a collection of Lightwave objects, a little short of 300 of them ranging from a simple extrusion representing a barrier to a very detailed model of a dragon. There are a collection of scenes to go with the objects and the data is represented in two forms to make the scene structure more compatible with LW3.5 and below as well as the more recent versions. There is a completel collection of thumbnail Jpegs so that you can see what the models look like before going through the bother of a test render.

The second CD contains a collection of image maps and studio 3D mesh collection. There are actually a lot more models in this collection than there are in the Lightwave collection, with plenty of quality models, but Amiga users shouldn't feel left out, as these will load into Lightwave. Disc three consists of a large collection of backdrops and a whole bunch of Imagine objects. The 250 or so backdrops are all good quality 24 bit images, mostly in the 752 by 480 pixel resolution most suitable for broadcast images, but there are also a few in 640 by 400 backdrops too. The collections of Imagine objects are unlikely to amaze and excite any long term imagine users as they are on the whole well circulated objects. Anyone who bought the Imagine PD 3D disc will find this collection very familiar indeed.

It is interesting to compare this collection to the Dinosaur ROM disk reviewed last month. At a third of the price, this offers a lot more objects. The difference is that this is a huge object jamboree while the Dinosaur ROM disc was a collection of only ten models but with a very high attention to detail, while this is a mass collection of rather varied objects. If you need a high quality Dinosaur model for professional work you are a lot better buying last month's offerings than searching through this. This disk is much more appropriate to the amateur or semi pro renderer, for whom it offers a very useful and very in depth collection.

If you haven't got enough object yet, you won't do much better than this. **89%**



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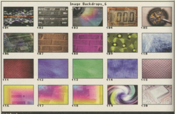

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One of the most useful examples of the Amiga's ability to fit in with the world around it is the ease with which PC CD-ROMs can be used.

While it's not possible to run PC applications without an emulator, there's still a whole world of data files doing the rounds that can quite happily be loaded into your favourite Amiga applications and put to good use. Take MIDI files for example. Like all the best file format standards, they were designed to be independant of any particular manufacturer's equipment, and the system works beautifully. This CD, although intended for the PC market, is packed with MIDI files which can be used on any computer that can read the CD, and that of course includes the Amiga.

These days you don't even need a MIDI module to play back MIDI files – you can do it from a standard Amiga using GMPlay – but realistically this is going to appeal mainly to those with some real MIDI gear. There are thousands of them here, including hundreds of cover versions of well known pop songs, national anthems, game theme tunes and original compositions.

Possible uses for these range from backing tracks for karaoke systems and cabaret performers to inspiration sources for budding MIDI programmers, passing through the most obvious one of all: a load of beats, tunes and riffs to pilfer for your own productions. Then of course you could simply use them like a collection of mods, purely for your own listening pleasure. There's far too much on here to comment on the general quality of the files, and anyway, they will nearly all need some degree of tweaking in order to play back perfectly on your particular set up.

Aside from the MIDI files there's also plenty of software on the CD that for most Amiga users will never be used, as it's all PC specific. Still, you never know when something on there might come in useful. As for whether that PC software is any good, your guess is as good as mine, so the overall rating here is based purely on the Amiga-relevant content of the disc. Basically if you want a massive collection of MIDI files, look no further. **78%**

Aminet 20

- **Available from:** Weird Science, Q House, Troon Way Business Park, Humberstone Lane, Leicester LE4 9HA.
- **Tel:** +44 (0)116 246 3800
- **Price:** £10.95 + £1 p&p.

The Aminet CD Collection hits the big 20. The collection is as huge as ever, another gigabyte or so compressed down to fit on a CD-ROM.

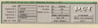
As usual, there is a bonus package, this month a special registered version of the brilliant image processing/animation utility Wildfire, with a special upgrade deal for the latest commercial version.

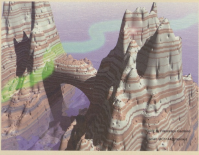
Amongst the archives all the normal areas are well represented, from biz/cloan filled with the latest locales, patches and upgrades for Cloanto's excellent Ppaint to util/wb for all those little WorkBench utilities, a directory which may be last on the list alphabetically but it is always crammed full of goodies. Examples this month include the latest Class Action, a hack to make gadtools look better on 1 by 1 ratio screens, the latest Magic Workbench archive (well, some people like it!) and a new virtual floppy program.

As you can see from the list below, this is an Aminet disc with plenty to keep you entertained. The demo collection isn't the best I've seen but has plenty of swirling plasmas and ray-traced tunnels to keep you amused. Broken Promises from the demo/aga drawer was a particularly choice one with some lovely if rather too blurry glow effects.

The packed game section includes about a million dogfight and tanks style games, previews of Shadow of the Third Moon and Nothingness, a Myst like game from France and a huge collection of patches and installers. One of the best games is oddly to be found in comm/tcp – FreeCiv, the network Civilization clone which is taking the Internet by storm. You should also find that the pix drawers and the mods drawers have been popular places to upload to lately with loads and loads of really good offerings.

The more serious user shouldn't feel left out. There are all the usual new datatypes, patches, hacks and rexxscripts, plus all the oddities we have come to expect, from a sieve of Eratosthenes prime calculator to a disk port based Amiga networking system. Aminet disks vary a little, wobbling backwards and forwards around the excellent mark. This one is well on the upper part of the curve, one of the better disks in a while. Unmissable, yet again. **91%**





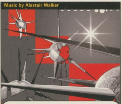
Aminet Set 5 contents

biz	30Mb	docs	41Mb	mods	246Mb
comm	43Mb	game	118Mb	mus	25Mb
demo	66Mb	gfx	66Mb	pix	194Mb
dev	28Mb	hard	3Mb	text	36Mb
disk	12Mb	misc	27Mb	util	34Mb

Art Gallery

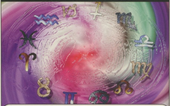
Send pictures to: Art Gallery, CU Amiga, 37-39 Millharbour, Isle of Dogs, London E14 9TZ or E-mail them to artgal@cu-amiga.co.uk.

Music by Alastair Walker



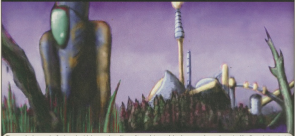
Some people might call this red and grey spikey bits but they just don't get abstract art. Ever since Wassily Kandinsky abstract artists have tried to capture the essence of music in images. Then Kandinsky was an idiot, so who knows?

Zodiac by Mark B. Clarke



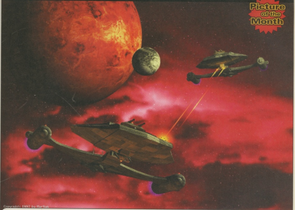
Mark uses Imagine, Dpaint, Photogenics and Image FX in his work. This image shows some imaginative use of processing effects and textures. Mark is looking for work in the computer graphics industry, particularly doing games graphics.

River City by Dave Higton



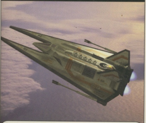
The unreal colours and soft edges give this image a dreamlike quality reminiscent of the city scapes of surrealist genius Max Ernst. As for whether Dave was following Ernst's theme of the city in the jungle as conciousness submerged in the subconcious, we may never know.

Direct Hit by Steffan König



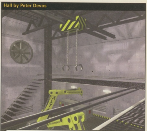
This excellent piece of work was produced with Cinema4D, XiPaint, Ppaint and Image Engineer. Steffan doesn't specify that the models are his, but even if they aren't this is an impressively assembled image…

Fighter by Steffan König



… on the other hand if he does do the models himself he's got an enormous amount of talent. The lighting is well positioned and realistic – not the easiest of tasks but one Steffan has done very well.

Hall by Peter Devos



This Image was rendered in Cinema 4D by Peter, a Belgian Insurance analysis programmer! The play of shadows is very nice, but I think a stronger centre of composition would have been good.

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AmigaWorkshop

From 3D rendering to image processing sound files, this month's Workshop provides keen instruction for every genre of Amiga computing going. Get stuck in!

76 Imagine 4.0

John Kennedy talks about recursive rendering to save time on those Imagine 4 created 3D masterpieces.

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80 C Programming

More coding tips, this month looking at modules, screens and menus. Get with the program.

82 Wired World

Following the European Computer Trade Show, we temporarily put our Net tutorial aside to cover Internet gaming.

84 Surf's Up

The Net God offers comment on the latest developments in the Internet arena, plus all the hottest news.

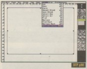
Surf of the Month p85

85 Surf of the Month

Including a plethora of sites which devote themselves to the complete annihilation of self built robots in Robot Wars.

88 Sound Lab

Dhomas Trenn takes the unique approach of utilising Image processing techniques for audio.



DTP p90

90 DTP

The ProPage article editor falls under Larry Hickmott's scrutiny in the Desk Top Publishing tutorial this month.

96 Q & A

Readers write in seeking help from our panel of Amiga experts. Incorporating tech tips for those DIY oddities.

99 A to Z

Our A to Z guide to the Amiga hits the letter B. More thrilling explanations of all thing B found here.

Regulars

86 Back Issues

Missed an issue of CU Amiga? Shame on you! Still, all is not lost since you can find out how to order one from here.

102 Backchat

Comments, criticisms, suggestions and general information from our dear readers appears here. This is the place to see your name in print.

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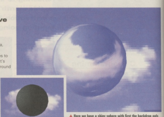
104 Points of View

CU's panel of opinion this month features Mat Bettinson on the DIY phenomenon and Andrew Korn on Amiga gaming, or rather the lack of.

PART 11 Imagine 4.0

Wheels within wheels within wheels... create your own recursive renderings to drive yourself mad.



▲ Here we have a shiny sphere with first the backdrop only, and then the global brush setting switched on as well.

We touched last month on using backdrops, and specifically how to speed up rendering times by pre-rendering the background. Obviously this technique isn't suitable for every case, but there are times when it can be especially effective – not to mention saving hours of processing times.

The backdrop image used in Imagine doesn't have to consist of a static image. Instead, you can use a series and frames, given names which include a number to keep them in order. This opens the door to all kinds of weird and wonderful effects. Nevertheless, you still have to pick your projects carefully, as not all images will benefit.

Skies & Starfields

There are two common situations when a background animation won't be affected by anything in the foreground: background skies, and space starfields. Whatever happens in the foreground (barring events of cataclysmic proportions) the background is unchanged. When your spaceship flies past the camera, you really don't want the light source contained in the engines to illuminate a nearby planet. So it's practical to pre-render a background and use it, maybe even several times in one project. Here's some important tricks for using backdrops.

1. The backdrop, animated or not, must be the same dimensions as the final project. This can be a nuisance, especially when rendering a preview. There is no way round this, if you want to render a small file as a preview, switch off the backdrop or provide a new, correct sized, one.
2. Backdrops will appear behind all objects in your scene and will show through transparent materials, however, they won't act as accurately optically as other objects. You also should beware the lack of reflections. If you create a shiny sphere and place it in front of a backdrop, it will look strange because there is nothing in front of the camera to be reflected in it. You could try using the Global Brush setting with the same settings as the Backdrop to cure this.
3. If you're using an image in the background, but want to get away from using a backdrop, try this. Create a rectangle object, the same dimensions as your background images (for example, 320 by 256). Apply the background image to it as a texture, and make sure the rectangle is bright so it won't be shaded or have any shadows appearing on it. Then position it in your scene, so that its edges cannot be observed.

Brushing up

In the same way backdrops can be animated, so can brushmap textures. Not only is it possible to morph between various procedural texture settings as we've seen in previous months, but it's possible to animate the very texture itself. Again, all manner of neat effects are possible, from animated control panels on spacecraft to moving television set objects and realistic moving people.

The monitor's screen

These are the images which are going to appear on the monitor screen. There is no point rendering them any larger than 160 by 128 pixels.

Step 1

Step 2

Step 3

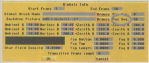
Step 4

Step 5

Step 6

Step 7

Step 8



Globals Info

Start Frame 1 End Frame 50

Global Brush Name Browse Max Seq. 0

Backdrop Picture hd3:clouds/cl.iff Browse Max Seq. 50

Ambient R 10.00 Horizon R 10.00 +Zenith R 200.0 -Zenith R 200.0

Ambient G 10.00 Horizon G 10.00 +Zenith G 200.0 -Zenith G 100.0

Ambient B 10.00 Horizon B 200.0 +Zenith B 100.0 -Zenith B 200.0

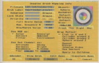
Fog Bottom 0.0000 Fog R 0.000

Fog Top 0.0000 Fog G 0.000

Star Field Density 0.0000 Fog Length 0.0000 Fog B 0.000

Transition frame count 0

▲ **Feed in the base file name (missing the numbers) and set the Max Seq value. Imagine will do the rest automatically.**



Imagine Brush Mapping Info
Filename
Brsh Label
Subgroup
Lock State
Priority
Browse
Browse
<< >>
Full Scale Value
Max. Sequence #
Mix/Morph Value
Use RGB as:
Color
Reflect
Filter
Specular
Ambient
Environment
Use Red Channel as:
Altitude
Hardness
Roughness
Fog:
Shiny
Bright
R.Index
Object:
Sphere
Backdrop:
Default
Size:
Front
Top
Right
Obj
Wrap Method:
Flat in X and Z
Cylinder around X
Cylinder around Z
Sphere around Z
Repeat
Mirror
Inverse Video
Use Genlock
Apply to Children
QRender
View Brsh
Edit Axes
Transform Axes
OK
Drop
Cancel

▲ **Apply an animated texture to the monitor screen. You can still apply other textures, to create realistic reflections or stratches.**

One irritating feature of Imagine is a contradiction between the names of any rendered frames and the names required for brushmaps. So although the program will create files such as "pic0001", "pic0002" and "pic0003" the brushmaps are expected to be named "frame.0001", "frame.0002" etc. Unlike other packages, it's impossible to use the previously rendered frame in a currently rendering scene. Instead you need to take a few passes.

Here is how to create an animation project with two layers of animation: To begin, there's a table with a monitor on top. Behind, the sky slowly drifts by. The monitor displays a moving image of the same scene, with its drifting sky...

Recursive

Firstly, render the scene which will appear on the monitor. Most important is the drifting sky texture, which you can create in various ways, drawing a series of clouds in Deluxe Paint is easiest. I elected to convert some video film footage of passing clouds into a series of IFF files. This alone took all morning – I filmed the sky then digitised it on a non-Amiga system – but there's no reason why I couldn't have used VideoMaster or ProGrab. The hardware used created an AVI file, but a quick run through the Main Actor Broadcast utility soon split it up onto IFF files which Imagine was happy with.

Back to the Scene Editor, where I loaded the required objects and positioned the camera etc. Then to the Action Editor, in particular the Global setting. It's here the magic happens. Use the Backdrop setting to enter the name of the first of the cloud images. To keep Imagine happy, strip off the numbers (so cloud0001 becomes cloud) and then enter a number in the Max Seq box. This box should contain the number of frames which make up the background animation, and Imagine uses it to check that all frames are used. When it reaches the last frame, it starts again at 1.

Small is good...

Now the scene could be rendered. As this was going to appear mapped to an object, there's no need to render it as a large file: 320 by 256 is too much, 160 by 128 is sharp enough. After rendering all fifty frames, the names "pic0001" to "pic0050" have to be renamed. This is the sort of thing an ARexx script is ideal for, but no matter how you do it you should end up with frames called "pic.0001" to "pic.0050".

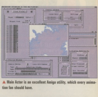
Now you can render the final animation. Use the same objects and settings as before, but this time add a texture to the monitor screen. This is done in a very similar way to adding the filename to the backdrop requester, with a base name and then Max Seq setting.

Once again, Imagine will cycle through all the frames applying each in turn. For each frame in the project, Imagine will not only load a new backdrop pattern, but it will also load a new texture for the monitor object on the table. I also took the opportunity to move the camera's last position, so that it pans around and then zooms into the monitor screen.

The final result is extremely pleasing, but there is no reason to stop there. Time it right, and the animation will loop perfectly, when the camera has finished zooming into the screen, the image displayed will match the first frame of the animation – and so the entire sequence will replay over and over again in some recursive nightmare. Or, take the last batch of frames, rename them as before, and use them in yet another animation. You may want to batch-process the files to blur them slightly, or change their colours.

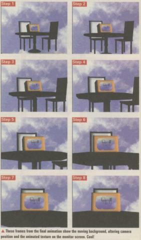
Any art program with an ARexx port can be coerced into doing this (yet another reason to own an Amiga) as writing batch control programs on other platforms is often impossible. And don't worry if you can't make your only cloud animation, I hope to provide it and other animations ready for you to use, on next month's cover CD-ROM. ■

John Kennedy



▲ **Main Actor is an excellent Amiga utility, which every animation fan should have.**

The final frames



Step 1
Step 2
Step 3
Step 4
Step 5
Step 6
Step 7
Step 8

▲ **These frames from the final animation show the moving background, altering camera position and the animated texture on the monitor screen. Cool!**

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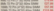

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Amiga C Programming

PART 4

This time around we delve into the world of modules, screens and menus... get with the program.

In this month's tutorial we're going to look at a number of different things, from code structure to screens and menus. In some ways we're going to get closer to a real program and move away from toy examples.

The first step on this path to a proper program is to break our program into two parts, by acknowledging that the old code to set a clipping region on the window is actually fairly generic and not dependent on our particular program. In fact, we can generalise further to allow any rectangle to be set as the clipping region.

To do this we've created the files "clip.h" and "clip.c", which together form a small module providing the three functions "setClipSized()", "setClipInternal()" and "removeClip()". These functions are declared in "clip.h" (as prototypes, like we've met before) and the definitions are given in "clip.c".

Menu

A textual and/or graphical list of commands and options that invoke and control features of a program. The lists pop-up when the user presses the menu mouse button (usually the right button). They are normally grouped logically into 'Project' items, 'Edit' items etc. On a standard Amiga, you'll notice the menus appear on a bar at the top of the screen.

Programatically, a program's menus are contained in a menu strip. This is an array of menus (or menu groups) in "Menu" structures, and each menu group is an array of menu items in "MenuItem" structures. There is one deeper level, as each menu item can contain a further array of menu sub-items (again, in "MenuItem" structures).

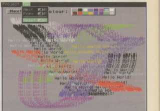
The GadTools library provides functions for creating menus very simply indeed from a "NewMenu" structure.

In StormC you merely add these files to the project window and it takes care of the rest. For other compilers you'll need to start worrying about creating object files or inventing a 'Makefile', since once our main program file ("screen0.c") has been compiled it must be linked with the compiled version of "clip.c" (ie, the "clip.o" object file) in order to create a complete executable.

This month's first example, "screen0.c" contains only two changes to last month's final example: the clipping code has been removed to "clip.c" (and slightly generalised) and the call to "setClip()" has been replaced by a call to the new "setClipInternal()".

Custom screens

The main two Amiga themes of this tutorial are screens and menus. The next example, "screen1.c", builds on the last by opening a custom screen for the drawing window. Because of the neat way our example has grown, the changes are quite subtle. We've replaced the code bracketed by "LockPubScreen()" and "UnlockScreen()" with the wrapper shown in Example 1 to create a new screen. The second change is to link the window to this screen, by passing "scr" to the window creation function and using the "WA_CustomScreen" tag when opening the window.



▲ Hello to a world of menus.

Example 2

```
/* The description of our menus */
struct NewMenu mymenu[] =
{
 { NM_TITLE, "Project", 0, 0, 0, 0,},
 { NM_ITEM, "Quit", "Q", 0, 0, 0,},
 { NM_END, NULL,  0, 0, 0, 0,},
};
```

If you run "screen1" you'll notice that the 3D look is missing (on a standard Amiga machine, at least). The window and gadgets all look very flat. This is because of the backwards compatibility with the older versions of the Amiga OS, so to get the 3D effect we need to do a little more.

The thing we should do is add a "DrawInfo" specification of the pens that can be used for drawing the 3D bits. This is an array of pens to override the default pens (as set by the Palette preference program). The minimal value for this array is a singleton "~0", which specifies no overriding of the default pens. The third example, "screen2.c", contains this change and modifications to make the window fill the screen (by making use of the "Width" and "Height" elements of the "Screen" structure). Run "screen2" in order to see the difference.

What's on the menu?

There are two ways of creating menus: the hard way (using Intuition functions) and the easy way (using GadTools functions). We'll opt for the easy way, since we're already

Example 1

```
/* Try to open a new screen with 16 colours (four bit-planes deep) */
if(scr = OpenScreenTags(NULL, SA_Depth, 4, TAG_DONE))
{

 /* Rest of the code... */

 CloseScreen(scr);
}
```

Example 3

```
case IDCMP_MENUPICK:
{
 UWORD menuCode, menuNumber, itemNumber;
 /* Loop over all the menu selections in the menu code */
 for(menuCode = intuimsg->Code;
   going && menuCode != MENUNULL;
  menuCode = ItemAddress(win->MenuStrip, menuCode)->NextSelect)
 {
 /* Do something based on what menu item was selected... */
 }
 break;
}
```

Example 4

```
/* Extract the menu number and menu item number from the menu code */
menuNumber = MENUNUM(menuCode);
itemNumber = ITEMNUM(menuCode);
/* Now decide what to do based on what menu item was selected */
/* Only one item: Project=>Quit */
if(menuNumber == 0 && itemNumber == 0)
 going = FALSE;
```

3D Look

The 3D look is created by using bright and dark colours (specified by 'Shine' and 'Shadow' pens) to draw borders around gadgets and other window furniture. The pens used for doing this are stored in a "DrawInfo" structure for each screen. The user can specify a preference for the colours using the Palette preference program.

DrawInfo

A structure associated with each screen that contains information necessary for drawing the 3D look and other Intuition graphics. This includes, for example, specifications of the shine, shadow and menu pens, as well as font and display aspect information.

Example 5

```
struct NewMenu mymenu[] =
{
 { NM_TITLE, "Project", 0,  0, 0, 0,},
 { NM_ITEM, "Quit",  "Q", 0, 0, 0,},
 { NM_TITLE, "Pen",  0,  0, 0, 0,},
 { NM_ITEM, "Next",  "N", 0, 0, 0,},
 { NM_ITEM, "Prev",  "P", 0, 0, 0,},
 { NM_ITEM, NM_BARLABEL, 0,  0, 0, 0,},
 { NM_ITEM,  "Reset",   "R", 0, 0, 0,},
 {  NM_END, NULL,     0,   0, 0, 0,},
};
```

Example 6

```
/* Extract the menu number and menu item number from
the menu code */
menuNumber = MENUNUM(menuCode);
itemNumber = ITEMNUM(menuCode);
/* Now decide what to do based on what menu item was
selected */
switch(menuNumber)
{
case 0: /* Project menu */
 /* Only one item: Quit */
 if(itemNumber == 0)
  going = FALSE;
 break;
case 1: /* Pen menu */
 switch(itemNumber)
 {
 case 0: /* Next */
  setFgPen(win, pen+1);
  break;
 case 1: /* Prev */
  setFgPen(win, pen-1);
  break;
 case 3: /* Reset (item 2 is the bar!)*/
  setFgPen(win, MYINITPEN);
  break;
 }
 break;
}
```

Module

A (largely) stand-alone section of code, factored into a separate compilation unit (ie; a separate file), and normally containing code that is reusable or unaffected by changes to other parts of a program.

In C, this tends to normally be a pair of files: a header file (ending in ".h") and a code file (ending in ".c"). The modules of a program are compiled to object files (ending in ".o") which are linked together with the main code (ie; the module containing "main()") to produce an executable. Factoring code sensibly into modules makes it easier to maintain the module code (since it's in its own file) and speeds up compilation (since the module code needs to be recompiled only when you make changes that directly affect it).

using GadTools functions.

The next example, "screen3.c", shows how to add a very simple menu to our program. This menu contains just the 'Project' menu group with a 'Quit' menu item. The menu description is shown in Example 2. As you can see, we can specify a key for the 'Quit' menu item. This indicates that pressing the right Amiga key together with the 'Q' key (with or without Shift) will do exactly the same as selecting the 'Quit' menu item (and it's pretty much indistinguishable at the programming level, too).

To create the menu we've factored the most relevant code (using "CreateMenus()" and "LayoutMenus()") into a "createMenuStrip()" function. This function must be passed the screen's visual information so that the menus can be laid out using the correct pens, in just the same way that we needed this to create the gadget context.

Once the menu has been created it must be set to be the window's menu strip. This is performed by using "SetMenuStrip()" after the window has been opened. The 'closing bracket' for "SetMenuStrip()" is "ClearMenuStrip()", which must be called before the window can be closed.

Menus will generate "IDCMP_MENUPICK" messages (so this is added to the window's "WA_IDCMP"), and each one of these messages can indicate a number of menu selections (this can happen when you click the mouse's select button on different items before releasing the menu button). The code to handle "IDCMP_MENUPICK" is therefore a little more complicated than normal (see the outline in Example 3).

The core of this is the "for" loop,

which has three parts: initialisation, loop check, and end-of-loop action. The initialisation sets up "menuCode" from the "Code" of the IDCMP message. The loop check is that this code is valid and that the program has not been requested to quit. The end-of-loop action is the update of "menuCode" to the next menu selection.

The result of "ItemAddress()" is the "struct MenuItem*" corresponding to the current selection in "menuCode". You can use this to do more advanced things, but in general you need only the "NextSelect" item. Again, you might like to treat this as an idiom. It's the body of the loop that's really important, and the one for the simple "screen3.c" example is shown in Example 4.

As you can see, the menu selections are couched in terms of menu and item numbers (and maybe sub-item numbers), extracted from "menuCode" by the "MENUNUM()" and "ITEMNUM()" macros. These numbers relate to the positions in the menu description (see Example 2 again). Our single menu item is 'Quit', which is the first item in the first menu group. So, if this item is selected the "menuNumber" and "itemNumber" will both be zero. Other values are also possible, so even in this fairly simple case we don't assume that if we get a menu selection it had to come from 'Quit' being picked.

More on the menu

The fifth example, "screen4.c", advances further by making a more useful set of menus (see Example 5). A new 'Pen' menu group has been added, with 'Next', 'Prev' and 'Reset' items. A nice bar separates the first two items from 'Reset'.

This requires a more complicated body for the "for" loop in the "IDCMP_MENUPICK" case, as shown in Example 6. To support this change we've factored the pen changing code (which updates the palette gadget) into the function "setFgPen()" and made "pen" a global variable. The menu selections are handled using "switch" statements, with comments to remind us to which items the numbers relate. Take care to note that the bar item is counted as an item, so 'Reset' is item number three in the "Pen" group, not item two!

It's worth noting at this point that this is a very 'raw' way of handling menu selections. With larger menus it becomes rather unmanageable, and in those cases it's worth using the "nm_UserData" data item (the last zero in each of the "NewMenu" structures in the "mymenu" array) to identify the menu item or, for the really advanced, to specify the function to be called on selection. We'll see this in a later tutorial.

Tidying up

The final example, "screen5.c", tidies up the "handleIDCMP()" function, which is now rather long and unwielding. The main culprits are the "IDCMP_GADGETUP" and "IDCMP_MENUPICK" handling code. These both depend only on the "win" and "intuimsg" to do their work, so we've factored the code into the functions "doGadgetUp()" and "doMenuPick()". Both of these take a "struct Window*" and "struct IntuiMessage*" as arguments, and are passed the "win" and "intuimsg" that they need.

These changes again help to make the code easier to maintain. As the program grows in both complexity and in size we will need all the help we can get in keeping it readable and understandable, but still logical.

This month there's lots of scope for incorporating your own menus and gadgets. You might also like to try out some of the screen attribute tags (those beginning with "SA_" in the header file "intuition/screens.h"). See if you can work out how to make the screen a certain size and resolution, or how to set the colours of the pens. See you next month! ■

Jason Hulance

Next Month

AMIGA MAGAZINE

PowerUp

We told you it was coming, and it's finally here. phase 5's PowerUp accelerators bring the processing power of the Motorola PowerPC range to your Amiga, catapulting it into the forefront of personal computing once again. We'll be taking a thorough look at the first PowerUp cards to make it off the production line and onto the shelves.

POWER UP
AMIGA™ GOES POWER PC™

Further adventures in DIY

Following this month's fascinating AIR Link project, the portable Amiga and Project XG, we'll have yet another exciting adventure in do it yourself Amiga gear, but we're not going to spoil the surprise just yet...

TFX gets serious

Now you've got the hang of the basics and mastered the state of the art weapons systems, we'll be taking our TFX tips to the next level, with tips and guides to take you from Rookie to Top Gun.

December issue on sale 13th November

Contents are subject to change without notice.

Wired World

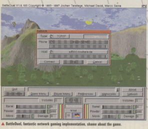
This month we take a little break and look at the lighter side of the Net, multiplayer gaming.

While writing this, the European Computer Trade Show is in full swing. The ECTS, as it's commonly known, covers every aspect of computer and console gaming.

On this footing, we've decided to put the technical Net tutorial on hold for a time and check out the Amiga games and the Internet.

Gaming on the Net is a big thing on the PC and it's even coming to consoles with plug in modems etc. It's quite obvious that the Amiga is ideal for Net games with superb Net connectivity and the multitasking to hold it together with a game.

▲ Foundation promises proper TCP/IP network game playing, we can't wait.

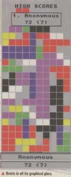


▲ BattleDuel, fantastic network gaming implementation, shame about the game.

It's also taken until now for people to think seriously about Amiga games on the Net. Discounting the promised but never delivered, Net Worms from Team 17. A game which is multiple player Internet compatible is one of the most entertaining possibilities to using the Net. This month we'll look at a couple of Amiga Internet playable games, how to create a Net playable game and what's coming for the future. It might be an idea to keep an eye on Paul Burkey's Amiga Net Games page at http://www.sneech.demon.co.uk/netlink.co.uk

Netris

It had to happen, Tetris gains Net support in this simple four player Tetris stand-off that uses AMarquee for the Net support. It's an extremely simple game, it won't even open on a screenmode of your choice but it does show how easily that a network game can be written with AMarquee. You can find Netris on the Aminet in the path comm/net/Netris1.11B.lha or on the cover CD-ROM as usual.



▲ Netris in all its graphical glory.

FreeCiv

comm/tcp/Freeciv10.lha

FreeCiv is a port of a unix clone of Microprose's Civilization. It allows up to fourteen players to play a game simultaneously over the Net. Sound good, well it's not only good but it's free and generating considerable interest in the Amiga Net community. So what do we need to get FreeCiv up and running?

You will need a 68020 or better, AGA or better, AmigaOS 3.0, MUI 3.8 or higher, an AmiTCP compatible TCP/IP stack (Miami), a GIF datatype and the ixemul and ixnet library V46 or higher. This is fairly straight forward but we also need a 24-bit aware picture.datatype commonly referred to as V43 compatible after the CGraphX picture datatype. Users of CGraphX can use the V43 picture datatype, Picasso 96 users already have one and in fact AGA users can use the Picasso96 picture datatype from the Picasso archive. This can be found on the Aminet in gfx/board/Picasso96.lha.

Here's what you need to get FreeCiv running and the complete FTP paths, including the stupidly convoluted path to Ixemul 46, 45 is the latest on the Aminet.

From ftp.ninemoons.com
Ixemul 46.0 /pub/geekgadgets/970414/amiga-bin/ixemul-46.0-bin.lha. From the Aminet
FreeCiv 1.0 comm/tcp/Freeciv10.lha
Picasso 96 gfx/board/Picasso96.lha
GIF datatype
util/dtype/ZGIFDT39.18.lha
MUI 3.8 util/libs/mui38usr.lha

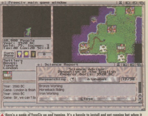
Naturally all this software can be found on this month's cover CD-

AMarquee

One of the reasons that Net gaming has been so slow in taking off on the Amiga is that games programmers often have no experience of accessing the Net via whatever TCP/IP stack the Amiga is using. Jeremy Friesner has come to the rescue with a shared library and daemon system called AMarquee. This handles the technicalities with communicating on the Net and provides a simple communication method for games programmers.

Gaining access to AMarquee naturally requires that the game, or parts of it, be programmed in C. Examples are provided and the archive itself will install AMarquee into a users AmiTCP or Miami quickly and easily. The result being that AMarquee leaves the programmer to concentrate on the game and not waste time implementing networking code.

AMarquee is available in the Aminet path, comm/net/AMarquee1.43.lha and on the cover CD-ROM. There's already some small games using the system, so hopefully it won't be too long before some of the larger games catch on. Perhaps ClickBoom will consider AMarquee for Net support in their conversions of top PC games such as Quake and Red Alert.



60,000 People
Year: 3720 BC
Gold: 77, Income: 3
Tax:40 Lux:20 Sci:4

Settlers
Moves: 1
Tundra
London

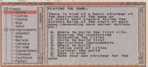
Despotism of the English
Emperor Boris: 3720 BC

Researching: Alphabet 19/30

Bronze Working
Horseback Riding
Iron Working

Year: 3580 BC
Game: London is finish
Year: 3560 BC
Game: Sir, we can't bu

▲ Here's a game of FreeCiv up and running. It's a hassle to install and get running but when it works it's the greatest Amiga network game to date.



PLAYING THE GAME:

There is kind of a basic strategy at the beginning of the game or at least; most players follow the pattern below at the start of each game.(depending upon server options etc)

0. Where to build the first city.
1. Mapping the countryside
2. Defending the cities
3. Units to build first
4. Agriculture improvements
5. Where to build
6. Taking care of cities
7. Explorer the world
8. Keep in mind
9. Make your own strategy for the game

▲ Thankfully there's some useful online help for FreeCiv also.

ROM. Once this software is installed, all that remains is to edit FreeCiv's icon tooltypes to enter a server to connect to you. One option to start with is to run the 'civserver' program locally and run FreeCiv without editing the tooltypes. Then your client will connect to your own server so you can play a game by yourself and get to know the ropes.

When you're ready to connect to another server, simply enter in their hostname in the SERVER= tooltype, save the icon and launch FreeCiv. Away you go! FreeCiv has excellent online help but it is a complex game. If you're not familiar with the original commercial Civilization then it may be somewhat confusing. However, it's definitely worth a bash as being turn based it plays perfectly over the Internet no matter the quality of connection.

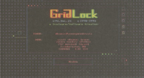
Battle Duel

Battle Duel is an artillery/tank game that has full CyberGraphX and network support, lots of game modes, OS compliant GUIs and basically all the hall marks of a well programmed game.

Unfortunately the game itself is completely rubbish and is so utterly simplistic that I can hardly imagine anyone wanting to waste time and play against someone else on the Net. The graphics are fairly well drawn and the Net support is excellent but it seems this is where the authors ploughed all their efforts.

It's worth checking out to see how a modern Amiga game should be implemented in terms of features and networking. If only this front end was present on top of the superb Scorched Tanks or Charr AMOS artillery/tank games. Perhaps some day, a developer will take one of the excellent multiplayer games and add networking via Amarquee, we can only hope.

Battle Duel implements the Net communication internally and is extremely easy to use. You can find it on the Aminet at game/2play/BattleDuel.lha or on the cover CD.



▲ Gridlock is a quirky but fun game from CU's Soundlab contributor. Modem and network gameplay is on offer so try it out.

GridLock

GridLock is an older Net link-able game which is based on a rather unique puzzle style gameplay. Again it is not possible to change the screenmode and the program defaults to trying to play via a null modem link, however by manually adding an entry into AmiTCP or Miami's InetD database, Gridlock will play via the Internet.

It's an extremely good game and well worth a try between yourself and a friend, either locally or via the Internet. You can find it located on the Aminet at game/2play/GridLock.lha

Foundation

Paul Berkey's Foundation is coming along nicely as we went to press.

The God's-eye-view action strategic war game claims to mix elements of Settlers, Warcraft II, Command and Conquer, Populous and Mega-lo-Mania together along with several new ideas.

Now, we wouldn't even bother mentioning this much anticipated game if it weren't for the fact that TCP/IP network/Internet gaming support is being touted as one of its major features.

This could give the game a whole new lease of life with competing players building their towns, commanding their subjects and ultimately sending them into battle against the opposing players.

Some other features slated in addition to the network gaming as proper CGraphX, even AHI sound card support and the novel idea of in game Mug-shots from many individuals in the Amiga community. Foundation could be hot news on the Net this Christmas, meanwhile we've got FreeCiv to tide us over in the meantime.

Foundation is due to be released round about November and you can see Sadenesses Foundation web site at http://www.sadeness.demon.co.uk/foundation.html if you would like some further information. ■

Mat Bettinson

Surf's Up!

Feast your eyes on this months gaggle of websites. Lurking below is a cool E-mail client and a groovy co-op.

Net God speaks

I don't need to remind Amiga users that even the most powerful 68060 based machines don't compare favourably to the latest PCs and workstations. At least not in the CPU stakes. This in mind, it seems strange that there would be an Amiga team entered into the RC5 Secret Key challenge. Until you consider that the Amiga RC5 team is actually a study in the Amiga Net community and its ability to pool resources and organise a common campaign. All around the world, Amiga users are bending University and Work mainframes to the Amiga RC5 cracking effort. Hundreds more Amiga users have their Amigas chugging away at the RC5 cracking client in the background. All this is before the Bovine RC5 cracking client is ported to the PowerPC which is due before you read this.

If the Amiga can reach #6 in the daily stats with CPUs that are several years behind, imagine what they could do with PowerPCs. It's heartening to see the Amiga Net community stands together for a common goal. Give us the next generation hardware and they'll be no stopping us!

No Amiga to Waste

No Amiga to Waste is a brand new Web site which is designed to be a place where both developers and users can come together as one, in order to share ideas and comments with each other. It appears to work on the basis that there are Amiga developers who don't know what to write and so they go to the No Amiga to Waste site to get some idea for a new, forward thinking super application that the Amiga should have.

No Amiga To Waste plans to implement a source code database, a development tips database and also an on-line help/chat system via the web site and IRC. During the meantime, Amiga users can includetheir own suggestions to a variety of different categories of applications via the web interface.

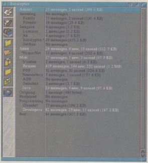
The No Amiga To Waste's home page can be found at **http://thunderstorms.org/NATW/**

Eucalyptus

Eucalyptus is a new ClassAct based E-mail client which does look incredibly impressive for a newcomer to the scene.

Starting out multi-threaded and MIME compliant is a very good start but the clean and functional ClassAct based GUI also adds to the professionality of the new program. Eucalyptus is in public beta as of going to press, it requires OS 2.04, the ClassAct GUI classes (supplied) and only a single megabyte of RAM.

Recently the POP mail download functions of Eucalyptus have been activated so that the package is fully operational for standard E-mail use. If you fancy a crack at a good looking new E-mail client and don't mind doing a bit of beta testing yourself, check out the author's home page at **http://www.geocities.com/SiliconValley/Pines/3517**



```
Aminet          21 messages, 2 unread (398.0 KB)
Incoming        No messages
  Family        71 messages, 2 unread (130.4 KB)
  Friends       18 messages (35.4 KB)
Isengard        4 messages (3.2 KB)
  Luminus       2 messages (2.3 KB)
  Ax            4 messages (7.8 KB)
  Eucalyptus *  29 messages (455.2 KB)
  GetSize       No messages
Jokes           28 messages, 6 new, 15 unread (112.7 KB)
  *HumorNet     11 messages, 6 unread (202.4 KB)
Misc            17 messages, 1 new, 3 unread (67.9 KB)
  Voodoo        2 messages, 1 unread (4.7 KB)
  Picasso       419 messages, 144 new, 252 unread (1.2 MB)
  PGP           52 messages, 30 unread (224.8 KB)
  Newsletters   5 messages, 1 unread (177.6 KB)
  ADE           No messages
  Geocities     3 messages (3.7 KB)
  Java          23 messages, 4 new, 9 unread (97.6 KB)
Outgoing        1 message (680 bytes)
Postponed       No messages
Programming     No messages
  ClassAct      77 messages (198.2 KB)
  Developers    82 messages, 25 new, 11 unread (187.3 KB)
Sent            84 messages (307.5 KB)
```

Amiga RC5 effort

The RSA Secret Key Challenge is a competition from the American RSA cryptography company to prove that the current encryption schemes are insufficient for the Net. The US government endorsed DEC encryption standard was cracked early on by the 1997 Secret Key Challenge. This involves RSA offering prize money for cracking the key. From here, collaborating efforts arise on the Net which co-ordinate the CPU horsepower from many computers towards a brute force cracking effort.

While DEC has been cracked, the RC5 algorithm is next under attack for a total prize money of $10,000. The leading effort to crack this RC5 key challenge is the Bovine group. Bovine is a multi-platform, multi-client effort which has the Amiga well represented.

There is an Amiga version of the cracking client but due to the astronomical quantity of CPU power required, the Amiga RC5 team is more of an exercise in Amiga users pooling resources, usually other computers with extremely powerful CPUs.

CU Amiga Magazine has a variety of Power Macintosh's and 68060 based Amigas contributing over 2 million checked keys a second. CU Amiga is just one company devoting CPU power to the Amiga RC5 effort, greater still is the huge number of Amiga individuals which has pushed the Amiga up to #6 in the daily statistics and 67 overall. The Amiga RC5 team was still climbing quickly as we went to press.

To contribute yourself, check out the Amiga RC5 team home page and the other relevant pages. Here's a list.

Surf of the Month

Mat Bettinson roots out some of the better Net sites... Move, and the teddy gets it!

First the **UK Robotics Club** home page is a pretty ordinary affair with little to recommend in it. The entertainment lies in the list of members where you can teleport yourself to their home pages.

There I found loads of details about an American robotic's competition called 'Robot Wars 97'. In this competition one doesn't compare engineering skills, oh no. If your robot can summarily dispose of the other robots, you win! There's several weight classes, manual, automatic and the incredible all-against-all melee rounds.

In addition to **The Robot Wars Home Page** I discovered a whole bunch of other cool sites about the entries, including the winner of the Robot Wars 97 heavyweight class **Biohazard**. For some reason this chap's ISP complained about his DIY Tactical Nuclear Warheads pages. Still, stay tuned for the next CU Amiga DIY scene.

David R! Woloschuk is a Canadian student with an exclamation mark in his name. Obviously studying the 'Visualisation of Parallel Program performance' proved too much and so he turned to cartoon strips in his clearly copious spare time.

The **After Life of Bob** is a sequential comic strip story that tells of the afterlife of an American student who appears to die in the first episode. If you'd like to find out how and what happens next, then check out the archive at this website.

Where has **Movie Critic** been all my life? It requires you to register by rating at least 12 movies. Big deal? Wrong! After that it will present to you a selection of movies which it thinks you will love and hate, on the big screen and small. It hit a golden bull's eye on every count for me though I needed to rate 25 movies before it became accurate.

This site is the absolute canine nether regions, so check it out for yourself.

On the Amiga front, Mark Wilson AKA Tecno, has been threatening to fire up an Amiga specific live advertisement site for some time.

He's finally done it at the **AmiBench Adverts Page**, where you can place free live adverts for Amiga equipment and software and view various other adverts.

Interestingly enough it describes CU Amiga as 'One of the most vocal magazines left'. Hmm, thanks.

The database broke when I submitted an advert but it was fixed quickly, and up and running shortly after. It doesn't explain Mark's fixation with Hooch though. ■

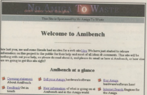
Mat Bettinson – mat@mats.net

▲ Top: Wedge of Doom wins featherweight championship. Below: The heavyweight champion 'Biohazard'.

URL's

After life of Bob
`http://web.cs.ualberta.ca/~davidw/ALoB/strips/strip_intro.html`
Movie Critic
`http://www.moviecritic.com`
AmiBench adverts page
`http://thunderstorms.org/AmiBench/index.html`
UK Robotics Club home page
`http://www.thomas-kay.demon.co.uk/`
The Robot Wars home page
`http://www.robotwars.com`
Biohazard Robot Wars entry
`http://www.webspawner.com/users/biohazardpage`
Another Robot Wars entry
`http://www.tinweb.com/robot/index.html`
Robot Snores – The loser's page
`http://www.phobe.com/robot`

▲ Scant seconds before teddy meets the business end of a 10,000 rpm diamond cutting saw, these guys play for keeps!



NO AMIGA TO WASTE
don't waste your thoughts

This Site is Sponsored by No Amiga To Waste

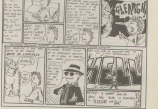
Welcome to Amibench

late last year, me and some friends had an idea for a web site Idea We have just started to release information on this project to the public for their help and most of all *ideas & comments*. This site will be nothing with out your help, so please do read about it, and please do email us here at Amibench, or how else are we going to get this site right?

Amibench at a glance

- Opening statement About AmiBench
- Sell your Amiga hardware/software
- Buy Amiga hardware/software here!
- Feedback Get in touch
- New information of what is going on at Amibench and in the Amiga world
- Internet Search Engines for the Amiga

▲ Buy and sell Amiga hardware and software, instantly, from Amibench.



OH, MAN!! WHAT A WEIRD NIGHTMARE!
HUH! THIS ISN'T MY PLACE! WHERE AM I AND HOW.. UH-OH!
HEY! WHO LIVES HERE? COME OUT NOW!!
whadda ya want.. i don't have all day.
GLEARGH
YOU REALIZE I DID NOT MEAN TO BE TAKEN QUITE SO LITERALLY.
shmuck
HEY! WHO ARE YOU?
OH, SORRY. PLEASE ALLOW ME TO INTRODUCE MYSELF. I AM A MAN OF WEALTH AND TASTE...
YOU CAN CALL ME LUCIFER, OR MR. DEVIL IF YOU PREFER.
HELL
NEXT! A BRIEF TOUR OF HELL AND BOB IS EXPOSED TO PLEASURE AND PAIN!

▲ The life and times of Bob, the dead Canadian student.

Back Issues

Looking for a specific Amiga article, game review, program, feature, tutorial, or even news story? Your search could well be over...

JULY 1996
Disks: XiPaint & Primal Rage demo
Features: A special report on what's happening in Europe, & news on Visorp & Pios
Inside: Image FX 2.6, Surf Squirrel, A4000 Tower, Primal Rage, SWOS Euro and more reviewed.

AUGUST 1996
Disks: EasyCalc (full program) & Valhalla III demo.
Features: The future of the Amiga with VIScorp, the new PIOS machine and the second part of the Euroscene feature.
Inside: Siamese Twin, Photogenics 2.0, Valhalla III and Tin Toy reviewed.

SEPTEMBER 1996
Disks: Vista Lite (full program) & a demo of Brian Lara Cricket '96
Features: The Aminet exposed. All 6 gigabytes!
Inside: Final Writer 5, OctaMED SoundStudio, Atapi CD-Rom drive. Plus an exclusive preview of the new AGA Worms.

LIMITED STOCK!

OCTOBER 1996
Disks: Upper Disk Tools: ideal for sorting out those awkward disks and drives!
Features: The Amiga in America, Net software...
Inside: The speed issue, or something. Three top accelerators, a TCP/IP stack comparison & Capital Punishment

NOVEMBER 1996
Disks: XCAD 2000 - The premier 3D CAD package, plus Chaos Engine 2. CD-ROM or floppy edition
Features: Palmtop Amiga-Psion link-up
Inside: Opus 5.5, Delfina DSP sound card, Web Browser War, Alfa Quatro, CD-ROM writer

DECEMBER 1996
Disks: Wordworth 3.1 SE, Worms demo. CD-ROM or floppy edition
Features: CD-ROM drive for £50! Amiga and PC games on CD-ROM
Inside: Draw Studio, Apollo 1230, Storm C, Siamese RTG system, Tiny Troops

JANUARY 1997
Disks: CD-ROM or floppy edition, Imagine 4.0, Underwater Capers, plus over 100Mb of Imagine extras on CD
Features: Get a job in graphics, plus Imagine 4.0
Inside: Art Effect, PPaint 7, SWOS 96-97, Fighting Spirit, Chaos Engine 2 ...

LIMITED STOCK!

FEBRUARY 1997
Disks: Design Works, Minskies Furballs plus Worms – the Director's Cut extras and Imagine extras on the CD.
Features: The new A/Box
Inside: Wordworth 6 Office, Turbo Calc, Minskies Furballs, Bograts reviewed.

MARCH 1997
Disks: OctaMED SoundStudio (full program) Chaos Engine 2, Chaos Engine 2 AGA demo
Features: Turn your Amiga into a pro studio. Printers: problems solved.
Inside: Quickcam, Cybervision 3D, SMD 100, JetPilot reviewed

APRIL 1997
Disks: Directory Opus 5.11 (full program), Tiny Troops demo
Features: Build your own Tower Amiga Part 1. The 50 best Amiga Games
Inside: Massive Cinema 4D 3.0 Review, new DTP series, ProGrab Sampler, Teletext Decoder

MAY 1997
Disks: Image Studio (full program) Kargon RPG, exclusive clipart on CD
Features: The Future's Bright: Gateway buys Amiga! Tower Amiga Part 2.
Inside: PageStream 3.2, Big Red Adventure, LightWave 5, Epson Stylus 600...

JUNE 1997
Disks: Pro Page 4.1 (full program) MPEGA 2.4, Sysinspector, The Sun game & more!
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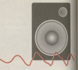


Image Processing Techniques for Audio

Requires: SOX, Play16 & ImageFX

It sounds like we've got our wires crossed, but no, you can use image processors to mangle your samples!

Normally if you wanted to edit a sample, you would use some sample editing software naturally enough. However, if you have exhausted the effects and options offered by your audio software and are still hungry for new ways to customise your sounds, here's a suggestion.

Image processing software provides all sorts of interesting functions for manipulating images: morphing, rippling, convolutions, etc. What if we could apply some of these processes to audio files? It is a great idea, but if you try to get an image processor to load in a standard format audio file it is not surprising that it will fail. But that does not mean it is impossible...

From the computer's point of view, image data and audio data are no different from each other. It is all just numbers to a computer. As far as the computer is concerned, you could just as easily listen to an image file as look at one. Unfortunately though very little, if any, software allows you to directly do these kinds of things. But, with a little creative exploration it can be done.

It works like this...

Before we get started, it is important to understand some of the inner-workings of this process.

There is one major difference between audio and image data. Audio files are single dimensional, in that they are played back one data item (sample) at a time in a continuous stream (width). Images, however, are two dimensional in that they have width and height and are displayed as such. In order to relate the two, we need to understand how audio and image processing software handles data differently.

For discussion purposes, we will use a small sampling of raw data (Figure 1). As audio data, this is processed as a single stream of data played back from left to right.

In order to use this as image data though, it needs to have width and height. We want to be sure to use all the data, so it is necessary to choose our dimensions appropriately.

Figure 1:

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

We will start with a simple example that simulates the single dimension of audio data to recreate a simple reverse waveform audio effect. To do so, we will use width = 16 and height = 1. The image processor's equivalent of reverse waveform is the flip function. A horizontal (left-right) flip of the data in Figure 1 will result in the data in Figure 2.

This gives us the reversed waveform that we wanted. Note that a vertical flip would not have altered the data at all. Alternatively, we could have used width = 1 and height = 16 with a vertical flip, to achieve the same effect. Read on to find out why.

Figure 2:

15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

That was interesting but not very exciting or new. We could do this much easier with most audio waveform editing software.

To better demonstrate the usefulness of using image processing in this way, we will start again, but with width = 4 and height = 4. When loading the raw data in Figure 1, the image processor will arrange the data in a table based on the dimensions you give it. Data will be read in column by column, skipping to the next row when the full width is reached. If there is insufficient data, the remaining will be filled with zeroes. If there is too much data, the extra will be ignored. In this case, we have just the right amount of data, arranged as in Figure 3.

Figure 3:

0 1 2 3
4 5 6 7
8 9 10 11
12 13 14 15

Because the data is now arranged two dimensionally, a horizontal flip (a single dimension operation) will have a different effect, resulting in Figure 4. If we were to then reorganize or store this data one dimensionally, we would have data as in Figure 5. This will cause some interesting things to happen to the sound.

Instead of reversing the whole waveform as before, it divides it into four separate parts with four values in each and reverses each part individually, all in one simple step. To do the same thing with an audio waveform editor would have required four reverse processes each with a different set range.

Figure 4:

3 2 1 0
7 6 5 4
11 10 9 8
15 14 13 12

Figure 5:

3 2 1 0 7 6 5 4 11 10 9 8 15 14 13 12

In order to do a proper waveform reverse with data organized in two dimensions, it is necessary to flip both horizontally and vertically. If we now flip the data from Figure 4 vertically (up-down), we get Figure 6. Storing this data gives a reverse waveform, again, as in Figure 2.

Figure 6:

15 14 13 12
11 10 9 8
7 6 5 4
3 2 1 0

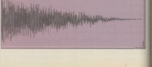
Now that we have a better understanding of what happens internally, we will try working with some real data. For this tutorial we will use ImageFX 1.52 from the coverdisk of June 95 CU Amiga cover disk to do the data manipulation.

However, the methods described here can be easily applied to most image processing programs. We will also be using two audio utilities included in the SoundLab directory of this month's cover CD: Play16 for audio playback and SOX for audio format conversion.

STEP 1: Preparing the audio file.

The problem is that it is very unlikely that you will find an AIFF, WAV or other audio file format loader or saver in an image processor. It is also unlikely that you will find an image data loader or saver in an audio processor. Fortunately, there is a storage format that is common between audio and image data formats and that is RAW.

We have included a sample IFF audio file for this tutorial: Piano.iff (seen in Figure 7 as it appears when loaded as a RAW graphics file). It is an 8-bit sound with a sampling rate of 16,780. To begin, we need to con-



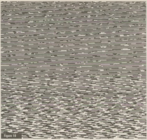


Figure 10

vert the sound file to RAW format. SOX is smart enough that it will recognize what we want it to do, so from the CLI:

```
SOX Piano.iff Piano.raw
```

is sufficient. This will result in the creation of a new file called Piano.raw.

STEP 2: Loading the audio file.

Most image processors do not specifically contain a RAW module, and ImageFX is no exception. The SCULPT image format, however, is a RAW data format and ImageFX contains two SCULPT modules: SCULPT GREY and SCULPT RGB.

The difference between the two is that SCULPT GREY is an 8-bit data format while SCULPT RGB is 24-bit. Because our sample audio file is 8-bit, we will be working in greyscale.. Load Piano.raw. When prompted for the format, select SCULPT GREY (Figure 8). Because the RAW image format does not contain the dimensions, ImageFX will prompt you for the width and height.

It is important to use dimensions that are large enough to accommodate the entire audio file. Generally, we want dimensions such that WIDTH * HEIGHT = RAW BYTES. Piano.raw is 86,700 bytes so enter 300 for the width and 289 for the height (see Figure 9).

We have instructed the software to load this audio data as an 8-bit greyscale image, so the data will be represented as shades of grey. When loaded as an image, the Piano sound looks very different (see Figure 10).

STEP 3: Processing the loaded data.

To perform a reverse process on the sound we need to use the horizontal and vertical flip transformations, as explained earlier. Select Transform (see Figure 11) and then Flip Horizontal. Then Transform, again, and Flip Vertical (see Figure 11).

STEP 4: Saving the data.

In order to playback the new reversed sound we need to save it as a RAW data file. Select SAVE and then SCULPT for the Save Format. ImageFX knows that this is a greyscale image so it will use the appropriate SCULPT GREY 8-bit format. Select SAVE AS and name the file Piano-Backward.raw.

STEP 5: Listening to the modified sound.

We could convert the new RAW file to IFF format using SOX before playing it back, but it is not necessary. However, because the sound is in RAW format we have to tell the audio player what sampling rate to play it back at. Entering the following in the Shell will do the trick:

```
Play16
FREQ=16780
Piano-
Backward.raw.grey
```

We have used the original sampling rate of Piano.iff for reference here, but you can try whatever rate you want. Note that ImageFX automatically appends a suffix ".grey" to the name you give it.

STEP 6: The weird and wonderful.

Earlier we talked about the strange effect that happens if we only flip in one direction. To hear it, do one more FLIP VERTICAL transformation and save it as Piano-Horizontal.raw. Because we have already done a vertical transformation once, we are now flipping it back again. Effectively, doing just a horizontal flip. To hear this weird thing enter this in the Shell:

```
Play16 FREQ=16780 Piano-
Horizontal.raw.grey
```

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▲ If you thought you'd got the most from our ImageFX 1.6 cover disk, think again: it can be a sample manipulator too!

We have only touched on the basic procedure here. Next time, we will delve a little more in depth into this process. In the mean time, explore this technique further and if you come up with anything particularly exciting please drop me an email.

These ideas are presented only as a guide to possibilities. Hopefully they will be used as a starting point to something new and wonderful. ■

Dhomas Trenn

You can contact Dhomas via E-mail at dhomas@youngmonkey.ca

Next month

You've made a funny piano sound – so what? Well next month we'll be following up the theory with plenty of examples of how ImageFX can be used to really chew up your sounds like nothing else.

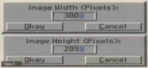


Image Width (Pixels): 300

Image Height (Pixels): 289

Figure 9

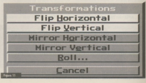


Figure 11

Desktop Publishing

Professional Page 4.1

PART 7

Helping you put words on your page is Larry Hickmott with a processor that is both integral to ProPage as well as a standalone utility.

Word processing and desktop publishing go hand in hand and Professional Page gives you the best of both worlds with not only a powerful page layout program, but also a very useful word processor called Article Editor (or AE for short).

AE can be used in two ways. One as an integral part of Professional Page where text on the page can be sent to AE for further editing and spell checking. The second way of using AE is as a stand-alone text editor stroke word processor. The only function that's missing for this latter use is printing, but that isn't such a problem as any text file produced in AE can be printed out using any word processor or DTP application.

Using AE as a stand-alone program also stretches to editing scripts and so on for your Amiga. I, for example, have AE linked up to my file manager so that when I need to edit my Start-Sequence and so on, I can do so using AE and the click of a right mouse button on a file. Having suffered from using Ed, I can heartily recommend AE for adding assigns to the User-startup and such like.

You can do this too, because unlike most word processors these days, AE is text based with the files it produces being ASCII, the most basic form of text you are likely to use. This also enables you to create ARexx "genies" for use in ProPage with AE.

Getting the most from AE though does require some knowledge of its inner workings and although I don't have enough space here to explore everything, the following should help you get more from the program.

Word power

Lets start looking at AE from a Professional Page perspective. That is, using AE from Professional Page rather than a stand alone program. The idea behind AE is that when large amounts of text are required, it is generally better to type it into a text based environment (like AE) rather than on screen in Professional Page. This is especially so if you're Amiga is not accelerated and your monitor is a single scan job (like a 1084) or even a TV set.

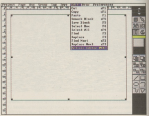
Lets say you have a letter to write containing hundreds of words. You can create the letterhead in Professional Page but write the letter in AE before placing it on the page to print. The way to utilise AE for such a task is as follows.

Before you can send text to AE, you need to create a box on your page. Make sure the box is created using the Box tool which is on the top left of your tool box and not the Rectangle tool used for creating structured boxes. Once a box is created, click on the Text tool and click once inside the box where you want the text.

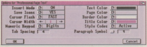
You can now starting typing in Professional Page or choose the "Article Editor" item from the Edit menu to take you to AE. I use the short cut which is the "Right Amiga" key and the "forward slash-question mark" key pressed down at the same time. This keyboard combination works for sending text to AE as well as from AE back onto the page in Professional Page.

Here's looking at AE

Once you have AE in front of you, there are some worthwhile things you should know about this application. Lets discuss how it looks on your screen. Because I run a Productivity screen mode, I have AE open up on Workbench. This is done by choosing Screen

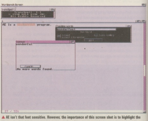


▲ To send text to the Article Editor known as AE on disk, choose from the Edit menu the item "Article Editor". The short-cut for this is "Right Amiga-/".



Insert Mode ON
Save Icons YES
Cursor Flash FAST
Cursor Width
Numeric Keypad Digits
Tab Spacing 4
Text Color
Page Color
Border Color
Title Color
Style Codes Active
Paragraph Symbol ¶

▲ Various aspects of how AE works and looks can be controlled from the Options requester which is opened by choosing "Set Options" from the Special menu.



TransSpell 1.1
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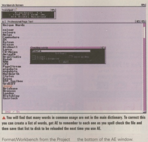
AE is a wonderfool program.

wonderfool

wonderful

No more words found.

▲ AE isn't that font sensitive. However, the importance of this screen shot is to highlight the "Guess Spelling" button, which brings up a list of words or word for you to choose from. If none are correct, retype the word in the text gadget containing the misspelt text.


Workbench Screen
TransSpell 1.1
TransSpell 1.1
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colours
Amiga
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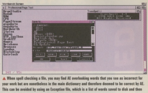
Larry
CU-Amiga
AmigaEm
DrawStudio
Kodak
RAM
CPU
PageStream
gigabyte
megabyte
Wordworth
Stylus
Epson
DTP_Toolbox
GraBIFF
Brisbane
Broncos
London
Bletchley
Gairloch
Checking Words
242 / 5%

▲ You will find that many words in common usage are not in the main dictionary. To correct this you can create a list of words, get AE to remember to each one as you spell check the file and then save that list to disk to be reloaded the next time you use AE.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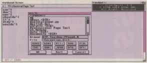
Brisbane
Broncos
London
Bletchley
Gairloch
Save to...
/PARENT/
Drawer
File
OK
Sort
Cancel
242 / 95%

▲ When spell checking a file, you may find AE overlooking words that you see as incorrect for your work but are nonetheless in the main dictionary and therefore deemed to be correct by AE. This can be avoided by using an Exception file, which is a list of words saved to disk and then loaded into the spell checker "Transpell" when required.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Drawer
File
Exception.dict
OK
Sort
Cancel
49 / 100%

▲ Press "Right Amiga-6" and you will see as well as your text, style codes used by Professional Page which dictate how a piece of text looks on the page. Press "Right Amiga-7" in order to hide these codes.

Format/Workbench from the Project menu. There are two other choices available and when you have the one you want, choose Environment/Save Configuration also from the Project menu.

Continuing with the look of AE on your screen, lets now turn our attention to the Options requester which can be made to appear by choosing "Set Options" from the Special menu. From here you can set various settings like the colours of the background and text for example. You can also alter the width of the cursor and the speed at which it flashes. Icons for text files saved to disk can be created or not, depending on how you prefer to work. Just be sure that you choose Save Configuration after you make any changes.

Within AE, there are many other features worth mentioning. One of the simplest and yet most useful for me is the ability to insert a text file into your current text file. So many word processors do not allow you to do this directly but AE does. Most of my writing for features like this are written in the more powerful Protext but even it doesn't allow a direct insert text function like AE and it can be so annoying.

Spelling bees

Text typed into AE can also be checked for spelling mistakes. This is done by placing the cursor at the start of the text and then pressing Alt-8 or choosing "Spell check to End" from the Commands menu. Single words can be checked as well by pressing Alt-7. If the word is correct, a message "Spelling is correct" will appear in the status bar at the bottom of the AE window.

You will however, come across many words that are not in AE's extensive British dictionary. Whether it's a person's name or the title of your favourite city, it can be annoying if commonly used words continuously come up as not being recognised by AE's spell checker. A way around this is to click on "Accept & Remember" in the "Checking Words" requester. You can then save all the words you've told AE to remember, to disk so they can be part of AE's dictionary the next time you use the program. Saving the words to disk is easy. Once checking is finished, click on the Transpell interface which is a small rectangular box and then use the right mouse button to choose the Dictionary/Save menu item. The Dictionary menu is the middle one for Transpell. Give the file a name and then each time you use AE, load that file and your unique words will be there as part of AE's whole dictionary of words.

Exceptional

Also worth a mention is an Exception Dictionary. This again, is one you create and is used for compiling a dictionary of words which are in AE's main dictionary that you want AE to stop at when spell checking. Lets take the word 'can't'. You might have a situation where by abbreviations like this are out of the question and as AE won't tell you about them because the word is in its dictionary, you create an exception file with the word 'can't' in it.

This is done by using AE to create a list of words you want AE to pull out when spell checking a file. Save the file to disk and then use the Transpell Exceptions/Load menu item to load that file into Transpell. Now when you check a document which has the word 'can't' in it, AE will stop at it and ask you for the correct spelling.

Doing it in style

I expect many of you will not be aware that when you create a piece of text in ProPage, that internally, ProPage uses style codes to describe how that text looks on the page. These style codes are normally hidden from view but you can make AE show you these codes. This is done by pressing either "Right Amiga-6" to show codes or press "Right Amiga-7" to hide them.

This may not seem all that useful, but you can use this once you get to know all the codes and how it works, to format text within AE. Lets say you want a piece of text bigger. The code "\fs<24.000>" tells ProPage to make the text 24 point. You could change this while editing the text in AE to "\fs<12.000> and the text would then become 12 points in Professional Page.

On its own, this revelation may not be a lot of use but once you know all the formatting codes for Professional Page, it means you can create a piece of text with all the necessary codes in it and when this text is placed on the page in the main program, the text would already be formatted. I used this a lot in my early Professional Page days, when formatting text on slow machines was a real bind.

Time for one last major feature and that's "Search and Replace". AE enables you to look for a word or series of words, or if required, search for a word and replace it with another of your choosing. It can even look for a word that not only contains the same characters but is in the same case (upper/lower).

Precious time-saving

This search and replace function is a real time saver for many tasks, including times when you want to format text as explained earlier by using search and replace to substitute simple codes of your own making with the more complicated Professional Page style codes.

Before I go, I want to urge ProPage users to look very closely at this wonderful editor because I haven't seen a DTP program on any other platform with an editor that comes close and when you think how old AE is now, it just goes to show how good a job Gold Disk did.

Don't miss next month's exciting tutorial as we'll be looking at using pictures with Professional Page. ■

Larry Hickmott

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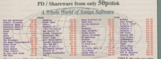

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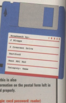

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Q&A

No matter what the level of your technical problems, if you put them to our experts they'll try their best to fathom things out. Also, please remember to provide us with as many details on your systems and problems as possible, to help us in helping you.

Logos

Mysteries and meanings ...

WORKBENCH	Solutions to those everyday troubles with your Workbench.
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Zorro without Towers

Now that I have seen the Zorro circuit board it seems possible to me that you could have it external (for those without Tower systems – like me) in a separate box. I'm not bothered about a tower, I just want a gfx card.

Jay, E-mail.

It's certainly a good idea in principle, but alas probably impossible. The biggest difficulty is that the bus boards connect to the accelerator slot with a pass through leaving insufficient space in a desktop console style case for the accelerator to be fitted as well. There are also likely to be problems with reliability running all that data down long ribbon cables. The only suggestion we can give is that you contact Eyetech on 01642 713185. They have a single slot Zorro board which may fit in your case if you remove the keyboard and fit a keyboard adaptor.

680x0 for sale?

I own a Blizzard 1260 accelerator with 1230 SCSI, and I am contemplating purchasing a 603+ Power Up card. If I use the 68060 processor from my 1260 card I am left with a lot of redundant hardware.If I could purchase a 68060 cheaply enough,I could sell my 1260 +1230SCSI and defray the cost of the Power Up card.

(a) Where can I buy a suitable 68060 processor?

(b) How much will it cost?

Tony Poole, CyberLeicester

This is a common question. The easiest solution is to buy your PowerUp card with a 68K processor supplied (White Knight: 01920 822321, for example), offer the 200MHz Blizzard 603e+ board costs £399 without anything, up to £649 with an '060/50

The 68K series chips can be bought from Motorola stockists. Future components +44 (0)1753 763000 and EBB +44 (0)1628 783688 seemed like the best bets to us. You may find that buying singly isn't such good value – we were quoted from £100.75p for an '040/25, while White Knight only put a £50 premium on for this. However the stockists mentioned will supply you chips if you want them, Motorola inform us that they have the full range in stock. Ask for part numbers MC68040RC?? where ?? is the clock speed – for instance MC68040RC50 for a 50 MHz job. For an '060 ask for XC68060RC50.

Amiga USA

I wonder if you could help me with a query I have. I currently have an Amiga 500+ with an A590 20Mb hard drive + 2Mb Chip RAM (therefore I.have 2 power supply blocks). I have a Ferguson MC01 TV/monitor, and use it via the RGB output on the A500+ with the correct cable.

My brother, in America, has an A1200 with internal HD, 6Mb of RAM, an external HD, external CD-ROM drive and a modem. He runs it in PAL mode by default. He's bought a Pentium 200 with MMX for compatibility with work, and no longer uses his A1200 – which he's giving me when he visits later on this year. My questions are:

1) Can I use the A1200 here if I use my A500+/A590 Power supply ?

2) If I bought a multi-plug/voltage mains adaptor, if they had the correct connectors on the end, would this be able to power the modem/CD-ROM/Ext HD?

3) Can I use the monitor with the same cable on the A1200?

Fred, Cyberspace

1. Yes.
2. Yes.
3. Yes.
Gosh, isn't it nice to be able to be so positive?

CDs are too quiet

Hi! I'm a big fan of your mag – I've been reading it for about 7-8 years. Until now I haven't had that much in the way of technical trouble with my A4000, but recently I have.

I own a Toshiba internal SCSI 4x CD-ROM drive. It all works fine but the CD sound is so much quieter than the computer chip effects, this causes all sorts of problems with games and doing serious work whilst listening to a favourite CD. Do you have any ideas for increasing CD output without altering computer sfx volume?
Thanks for a cool mag.

Chris Brown, virtual reality

Could be a software issue. Check your CDDA player, they usually let you change volume levels, and tend to default low. If this doesn't solve your problems, you have another alternative. The output from the CD drive isn't anything special, you can just connect it via a couple of phono leads to a line input on a pair of multimedia speakers or a hi-fi system. If you have a look at the rear of the CD player you will see that there are four pins for the CDDA out.

The two outside pins are the right and left audio channels, the two inside pins are ground lines. You can rig yourself up something or make a trip down to your local computer hardware dealer, who should be able to sell you a CDDA to twin phono or CDDA to stereo jack connector, whichever is appropriate to your equipment. All this will cost you is a mere couple of quid.

Super Amiga please?

I recently spotted an Amiga 2000 in the local press advertised for £50 so immediately tore the guys arm off and bought it. I already own an Amiga500 and an Amiga 1200. I would consider my level of knowledge to be intermediate. The chap who sold me the 2000 told me that there was a fault on one of the boards which limited the RAM, (he was a bit vague on this one).

What I would like to know is, if it was your machine and you were interested in sound and graphics applications, TV and Video, CAD and so forth (not games!) what would you do to an Amiga 2000 to make it an A1 supermachine? I would also like to use its onboard AT board for PC applications. Are there any good technical manuals available for this machine? Could you recommend any suppliers/repair organisations to me, who could help me out with a low budget? What PC bits and pieces will fit into this machine?

My best regards to you, and whatever happens please keep your Magazine going!!!

JLJ Smith, Enterprise.net

Analogic: 0181 546 9575 or Dart: 0116 2470059 are reputable repair houses with good supplies of parts. Start there and make sure that your machine works! Fitting up the machine to make it a supermachine? No budget limitations mentioned? Now that sounds like a fun question.

First port of call is a new accelerator, that 68000 is far too slow. Try a Blizzard 2060 for serious performance. It's very fast and comes with a SCSI 2 interface. £399 from White Knight Technology. You might consider for real top of the line performance the Blizzard 2604e 200MHz – that they will sell you when it comes out shortly – which costs £930 including an '060/50. We haven't seen this board yet, but it combines the speed of the above board with significantly improved SCSI 3, and most importantly a blazing 604e/200 processor, which runs at seriously Pentium thrashing speeds. Software support is limited, but will grow.

When Mac emulation hits PPC, you'll be able to run QuarkXpress and Photoshop at blistering speeds. Add at least 32Mb of memory – for the more serious users it really isn't worth buying less pricewise these days.

You'll need to up your ROM – 3.1 is a lot nicer than the 1.3 (or 2.04 if you are lucky) in the A2000. Phone Power Computing on: 1234 851500 and they'll sell you the necessaries. After that you'd better get yourself a graphics card, a necessity for serious graphics use. The Picasso IV and the Cybervision 64/3D are the market leaders. The CV64 being the cheaper option, especially if you don't buy the scan doubler, which if you don't want games you probably won't need. The graphics card will run happily on a standard PC style SVGA monitor, so buy the biggest one you can afford. Ilyama is a good, quality brand but there are many decent budget buys.

CD Rom drive and hard drive are of course essential. The SCSI link on the accelerator card can be used, so get SCSI devices, they'll be nice and fast. You'll probably want an HD floppy for PC compatibility, so ring Blittersoft on 01908 261466 and get one of the Micronik ones, or check out the tech-tips on the subject.

Micronik compatible?

I have just bought myself a Blizzard 1240 expansion card and I intend to put it inside a tower (about to convert my computer as per your brill tutorials). I saw the Micronik adverts for their ready adapted towers that the motherboard goes straight into, but I remember hearing that the Blizzard 1240 does not like the Micronik busboard. I know they now have several models, is this true or just a rumour, and does it persist on all models or just the first one (Z1 – I think). And what is the problem?

Tom, tungsten@enterprise.net

There may have been some problems with the original form of the board, but the current revision is, we are told, fully compatible. The problem is with the case. The chip on the Blizzard 1240 is mounted in such a way that the fan fouls the plastic support work of the tower. You can fix it with a hacksaw, but we don't advise making the cases less stable than they already are.

However, Blittersoft claim the height to the accelerator the Zorro board pass through gives, lifts it clear of the obstruction, so it's only a problem with non Zorro'd up towers.

Tech Tip

A common question people ask is how they can get a High Density floppy drive for their Amiga. It gets pretty complex when you get into the subject, largely because towards the end of the Commodore era and during the Escom era, there were a lot of rather weird decisions on the floppy drive front.

One of the offshoots of this is that a number of A1200s, including all Escom machines, were actually shipped with HD floppy drives. They don't work as HD because there isn't the hardware capability to write data to them at the correct speed, so data is written to them at half speed to make them work as a DD floppy. One rather nasty offshoot of this is that these machines throw a wobbler if you feed them HD disks. True DD drives will happily format HD disks as if they were DD, but an HD drive knows they are really HD and gets lost.

A well known trick is to cover up the second hole on HD disks, it is this the drive uses to identify them as HD. It allows the HD mechanism to work fine as a DD mechanism, but doesn't give us HD. Up steps gcrdisk.device, a software solution.

Yep, that's right. Dr Ercole Spiteri MD of Malta has written a device driver to read and write 1.44MB of data using these drives. By just installing his software, you get an HD drive!

Sounds great, but there are two drawbacks. One is that it only works on some drives, the other is that it will not read PC formatted disks. If PC formatted disks aren't important, then by all means, give it a go and see if it works on your machine. Otherwise you'll have to buy a new drive.

Because of the slightly non standard nature of Amiga floppy disks, you cannot just plug PC HD floppy drives in and expect them to work. You have to bodge it. There are two types of Amiga HD drive, special drives which run at half speed and standard PC floppies with a buffer. The £59.95 Micronik (Blittersoft, 01908 261466) device is the former, the £69.95 Power XL Power Computing, 01234 851500) belongs to the latter category. The final alternative is to scrap the whole Amiga floppy drive interface and go for something more sophisticated.

This is something we'll probably see in any next generation Amiga, alternatively jump in and get a Catweasel. Ideally you would be able to plug an industry standard HD mechanism into your Amiga and off you go, something you can't currently do. Perhaps the subject of a future DIY article?

Show me QT

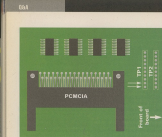
My kids have discovered the Disney web site, and decided to download a 14Mb mov file. God knows how long that took! (it's going to be coming out of their pocket money).

Anyway, could anyone tell me if it is possible to view this file on my Amiga (A1200/040, 32Mb RAM).

I've tried datatypes, but can't seem to find one. I have all of the CUCD's, 2 through to 12, so if anybody could tell me of anything that is on them then I would really appreciate it. Thanks.

Mark, via e-mail

The .mov suffix is an indication that the file is a QT or Quicktime format movie. The quicktime player QT ought to do the trick, and you will find it on CUCD10, amongst others.



▲ Look at the front left corner of your A1200 motherboard and it will look something like this. The two pads marked TP1 and TP2 are test points, we tell you how they can reset your Amiga.

Parallel scanning

If I read your article right you seem to indicate that there is no Parallel driver software for the Amiga and that the Epson scanner from the first computer centre is a SCSI device. This is not so! The gt-500 is a parallel connection scanner, this surprised me as I was expecting it to be SCSI. It is also a pain as it means disconnecting the scanner whenever I want to do a printout.

The software used for this scanner is Powerscan Professional which is also from the first computer centre. I hope you don't think I am nit-picking but every Amiga owner needs all the help we can give and without your questions and answers section I might have thrown my Amiga out of the window long ago.

Steve Dukes, Information Super Highway

Not at all! We were hoping that someone would eventually come up with a better answer. After looking at about a dozen or so scanner drivers that were all indicating SCSI only we were well and truly stumped.

The GT500 is a parallel or a SCSI device, as the three Gtxx drivers we looked at worked on the SCSI version only. Thankyou for the info!

Reset buttons

After reading your feature on 'Build your own tower' I have successfully placed my A1200 into a gorgeous looking (large) midi tower (the PC Keyboard adaptor was bought from dart electronics in Leicester – very good indeed)

Anyway, I was wondering if there was any way of hooking up the reset button on the front of the tower case so that it works? I can still reset from my keyboard, but, you know... those finishing touches.

Thanks if you can help me out, if not, thanks anyway for showing my how to make my Amiga look more like a computer!

Russell Goodman, Information Super Hypeway

This was something that got left out of the 'Build your own Tower' feature for a simple reason – the wiring of a switch to the keyboard reset line is actually a complex bit of electronics, beyond the scope of that feature. One of the nice things about the Ateo Keyboard interface we mentioned in the article is that it comes with a reset line on jt that the reset plug on the tower can be plugged straight into. You can contact Ateo on: 01705 790211 if you are interested.

Since writing the article, we have come across a solution. This requires a bit of soldering, and we feel we ought to warn you that you do this at your own risk, but here's the reset button hack.

Look at your A1200 motherboard, at the front left hand corner by the PCMCIA slot you will see two rows of solder pads marked TP1 and TP2 (see above diagram) If the 2 pads on TP1 nearest the edge of the motherboard are connected together, the computer resets. If you are handy with a soldering iron you can solder a couple of header pins to the pads and just slot the reset button connector over this. As these pads are solder filled, this is a tricky piece of work and if you do not know what you are doing you might damage the PCB. If you don't fancy this, cut the connector of the wire, bare the wires and carefully solder them down onto the pads, making sure they don't touch any other pads.

These pads are test point pads. We aren't 100% sure that using these pads for a reset is what they are intended for, but it works and we have done it numerous times without damage. Maybe someone out there with a repairs manual can tell us!

PPC & CDR

I have just finished reading CU Amiga August edition and see that some advertisers are showing the new PPC. So now I have some questions:

1) Do I need a Tower to PPC 175MHz 603e & SCSI-2 for my A1200? I already have a Blizzard 1230 IV accelerator with 4 Mb RAM, do I need to remove this card then? In the ad there are two prices, one with 50MHz 68030 and one without, what is the difference?

2) I want to buy some more RAM! I already have 6Mb but want 16Mb RAM totally, what is the best solution for that?

3) I need a CD-ROM, and saw HiSoft is selling Squirrel CDR CD-ROM and I liked what it could do. Is it true that I can write my own CD's and record music for use in normal CD players? If I buy that CD-ROM does it have it's own power supply? If it does can I get cables modified so I can use it in Norway? I don't know anyone in Norway that sells Amiga hardware.

Trond A Efraimsen, Norway

1. Yes, basically these are designed to fit in towers. It may be possible to get away with using one without a tower, but it isn't advised. CE marking of these boards is, we believe, dependent on them being sold as tower system boards.

2. The PPC board replaces your current accelerator. The board takes a 68K series chip as well as a PPC chip to ensure reliability. The board is sold *without*, so you can take the chip from your current board and slot it in, or *with* if you do not currently have an appropriate chip.

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3. We haven't been sent one for review yet, but yes, it allows you to write your own audio or data CDs. The power supply will be designed for 240v AC supply, which as far as we know will work across the EU. We aren't really experts on Norwegian electricity supplies, but as far as we know you use that too. If not, I'm sure that an electrical supplier will sell you a voltage converter.

As for no-one in Norway selling Amiga gear, there's a company called Applause (tel: 61 19 03 80) but unfortunately we don't know a lot about them.

Beginners expansion

I have just bought an A1200 and would like to upgrade it as the disks on your magazine usually need more than the 2Mb standard memory. I have no knowledge of computers at all, could you help me out?

Firstly, if I fitted a RAM card with 8Mb and a 33MHz FPU, could I fit more memory later? Secondly, could I do similarly with an 50MHz FPU?

T.Graham, Newcaste upon Tyne

There are some non-standard boards available, so remember to check that you are buying one with a SIMM socket. These sockets allow SIMM memory boards to be plugged in. If you want to upgrade at a later date, then all you have to do is just purchase a larger SIMM and swap it over with the old one.

You will find that FPUs are a bit more complicated than this. You can't just drop a new one in and have it go faster, as the speed derives from a crystal oscillator clock. Usually if you buy a new FPU you get a new crystal with it, and on this occasion it's a matter of plugging the new crystal and the new FPU chip. This aside, we don't recommend getting one of these FPU plus memory boards.

The cost of accelerator boards, which speed up everyday functioning of your computer, are now around the same cost as memory only boards. It is possible to get a 33MHz FPU and CPU for under £80. This will speed your machine up to around 3-4 times as much as the memory board alone would do for most functions. A SIMM can be bought separately and plugged in, and you should expect to pay under £30 for an 8 Mb SIMM or around £50 for a 16Mb SIMM.

A to Z

Once again John Kennedy is your trusted guide, assisting you on your journey through the great wide-world of Amiga-speak.

B is for...

B2000
Unofficial name of an improved version of the A2000 Amiga, a 68000 based Amiga in a desktop case with separate keyboard.

Backdrop
A special type of Window, lacking borders. It appears behind all other windows open on the current screen. The Workbench can open as a backdrop window using the first item in the Workbench menu.

Baud
Measure of the speed of transfer of data via the serial ports, close to the number of bits per second.

BCPL
Programming language, similar to C. A lot of the Amiga's original operating system was written in BCPL.

Big Box
Slang term for an Amiga which wasn't integrated into a single unit comprising a keyboard and main system unit: in other words, the A1000, A2000, A3000 and A4000. As well as an external keyboard, the Big Box Amiga's had Zorro slots which made it possible to add extra peripherals such as graphics cards.

Binddrivers
An AmigaDOS command, which is required by hardware which doesn't autoconfigure. As most hardware does support autoconfig, it is rare to need Binddrivers.

Bindmonitor
AmigaDOS command used to create new graphics modes and assign them names. Rarely used.

Bit
The smallest item of storage. A bit can only be on or off, which is "1" or "0" in binary arithmetic.

Bitmapped fonts
Amiga fonts are of several types: bitmapped fonts the most basic, and are simple graphic images which get blocky when enlarged.

Bitplane
The Amiga stores graphics in bitplanes. The colour a pixel appears in depends on the pattern of bits spread through the bitplanes. The more bitplanes, the more colours can be open at once. With a single bitplane, pixels can only be one of two colours. With eight bitplanes, pixels can be of 256 colours.

Blanker
Name of the standard Amiga screen blanker program. Blanker is a commodity program, and may be forced to be active all the time by being copied to the WBStartup directory.

Blitter
Amiga hardware, designed to make copying data as quickly as possible. Given a source and destination, the Blitter could copy data held in Chip RAM whilst the 680x0 processor did other things. It was ideal for creating software sprites. The Blitter could also draw lines, and was once called the "Bimmer".

Blizzard
Popular make of accelerator card for the A1200.

Blitz Basic
Powerful programming language, based on BASIC but with many additions to make the most of the unique Amiga hardware. Latest versions include support for the AGA hardware.

Block
A group of data, for example, a block of data on a disk consists of 512 bytes.

Boot
When a computer is switched on, it needs to boot or load its operating system. The Amiga will boot its OS from either floppy or hard disk.

Boot menu
Hold down the two mouse keys whilst the A1200 or A4000 boots, for the boot menu. You can then disable hardware, select the AGA chipset emulation mode or alter the disk drive to continue loading from.

Break
An AmigaDOS command used to force a running script to halt.

Breakpoint
A special marker inserted into a program by a programmer which causes the code under test to freeze. This enables the programmer to examine the current state of the computer and so help track down any bugs.

Bridgeboard
Hardware used for PC emulation. Bridgeboards contained PC processors (usually 286 or 386) which allowed Big Box Amigas to act as true PC compatible systems. Part of the functions of the Bridgeboard was to bridge the gap to the set of ISA slots present, thus allowing the use of PC graphics cards. At the moment, the GoldenGate 2 card is the only bridgeboard available. It doesn't include a PC processor, but it's possible to use a limited range of PC hardware in suitable Amigas.

BRU
AmigaDos command, for "backup and restore utility". A better-than-nothing program for making backups of important data.

Brush
A shape clipped from a larger image, usually done from within an art program, but often used to refer to any small graphic image.

Buffer
An area of memory used to temporarily store data. For example, the disk drives use buffers to store data in order to speed up operation. When data is read, more than is actually requested is read and stored. Next time data is requested, it's supplied from the buffer.

Bug
An error in software or hardware.

Buster
Custom chip in the A4000 responsible for looking after the Zorro III slots. First versions were flawed, and caused some high-performance cards to fail.

Byte
Eight bits of data make a byte. A byte can store a single character of text, or a number from 0 to 255.

Backchat

Make yourself heard. Send your views and opinions to Backchat, CU Amiga, 37-39 Millharbour, Isle of Dogs, London E14 9TZ, UK. Or E-mail to backchat@cu-amiga.co.uk

The kids want Java

I was one of those faithful Amiga users who was lured away from the Amiga to a PC a good while ago by the likes of X-Wing. Now I've got a few years of PC behind me I can quite truly say that I am sick to death of the machines. Buggy, bloated and slow are three things which spring to mind when I think of PCs.

Anyone who knows anything about computers knows that PCs are pretty dodgy but everyone uses them. So why? It's *got* to be the software support. The first thing I was taught about buying a computer on my college/university courses was "go for the software". So when I saw this "20 Ways to Save the Amiga" article (CU Amiga September 97) I was a little shocked to see so little mention of software and that Java got two measly sentences. Don't you realise what a gateway to a whole world of software a good Java virtual machine would be? Without Java you'll have Amiga developers working on the Amiga. With Java you'll have Amiga, Unix, PC, Mac developers, all working on applications which run on an Amiga. Take advantage and tap these applications by writing just one decent interpreter. PS: Java has Microsoft running scared and anything which does that has got to be a good thing.

Chris Kemp, via E-mail

Couple of quickies

I have two questions about the September issue (Vista Pro):

1 Why was the reader drawer so bare?!

2 Why did you not include Terraform with Vista Pro?

That's it for now, I'm looking forward to the next issue, and having a look at TFX. I just hope that it's playable on my 1200.

Stephen Thornber, via E-mail

▲ **Another picture of TFX: not a disappointment and actually a blindingly good game after all, according to the flood of comments from bogey-picking readers.**

1. Basically because reader contributions dried up a bit around that time. That's summer for you...
2. Terraform is the same as GeoMorph, but NTSC only. GeoMorph was on the CD and amazingly, the disks as well.

F117a Stealth mag

May I too express thanks at the impending release of TFX on the October cover disk. One thing worries me though. My September CUCD came minus the CG Fonts for some strange reason and given the alleged stealth capability of TFX will I spend all of September searching in vain for it?

Lastly, I suggested you release TFX on a CUCD some months ago in the survey. How many other magazines would actually sit up and take notice of one reader and even consider a suggestion?

Cheers! You've proved once again it *can* be done and that you are still the Creme de la Creme! With friends like you the Amiga can never die!

Allan Brown (yes *that* one)
via E-mail

Would that be the Allan Brown who said he wouldn't be turning up at the World of Amiga Show because our promise of displaying TFX wouldn't have been kept? Well look on the bright side: they say egg is good for the complexion. Presumably you managed to find the TFX issue. If you missed it for any reason, contact our back issues department pronto before stocks sell out.

The march of time

I remember when I had to tidy up a pile of Amiga magazines in the corner of the room. Just looking through them made me re-live all those years I have been with my Amiga (cue the soft-edged, flashback effect).

My oldest CU Amiga is the November 1992 issue, announcing the launch of the A4000. "Wow" I thought, "I'll have to get one of those". But as I flicked through the issues I noticed the full spread ads from Ocean, DMA, Team 17, Core, Indi Direct etc, and I felt a pang of loss of the Amiga being truly great.

In those days there was a new game out almost every week (or so it seemed), new hardware and thick copies of CU Amiga. It seemed to me that the Amiga has lost something which made everyone want one. And with mist in my eye I felt those days will never come around again... But, looking through the features one thing struck me. It was the 'people' using the Amiga in imaginative ways that made it what it was/is.

Then I realised the Amiga can be great once again, to have a new influx of Amiga users devoted like we are to our beloved machine. It needs new software as much as hardware, but where from? Years ago cheap home computers were great, but today if you expect fast rendering, cool games and so on, don't expect them to be developed on a small home micro any more.

Developers as much as new users have to be attracted back to the Amiga. To do this people who already own Amigas *must* upgrade if they want the Amiga to have new software for the future. And I mean *really* upgrade; hard disks, PowerPC, RAM, a graphics card (if you can't fit a graphics card stick it into a tower – then get a graphics card), CD-ROMs, so developers can develop new products for the Amiga.

If you expect Amiga International to deliver a new computer with lots of ace software in the next few weeks, think again. They need our help as much as we need theirs. Upgrade and show developers you're willing to spend the money and time doing so, it might result in the Amiga being great again. Even if it doesn't, you'll have a great system and you can hold your head up high when people ask you what computer you have. Instead of mumbling, "Errr...

Letter of the month

Back from the brink

I've been interested in computers for 15 years now, first a ZX Spectrum, C64, Amiga 500, and then a couple of years ago I bought a Pentium PC as there was so much software/hardware for it and the Amiga seemed to be dead. I have now just bought myself a second-hand A1200 as the PC is, well... boring. I am now spending every waking hour on a great computer that is so easy to use, has some excellent software, and doesn't require a degree to use to its full potential. I can now read decent magazines (like CU Amiga) rather than magazines which are 990 page advertisements and 10 pages of articles. I shall now be adding to my system often (a tower case and CD-ROM are imminent) and I can't wait until Gateway start bringing out some new machines! Goodbye MicroSoft... Hello Amiga!

Andy Riding, N London

Now there's a letter you don't get every day, and we didn't make it up either. It's stories like these that need to be conveyed to the masses of confused and unsatisfied PC users around the world who have never experienced the wonders of the Amiga because they've never even heard of it. Here's a new theory: how about promoting the Amiga? Chuckle...

an Amiga" and getting a reply "what's an amoeba?" you will quietly tell them about the new PowerPC you got that can do 230 MIPS, has an efficient OS that can run in 512K, that is friendly and easy to use.

Tell them about how good it is for "creative" use, and you can run a web browser, word processor and a paint package and doesn't require lots of memory to do this "multitasking", and be proud of your machine. I know I will. "We shall not go quietly into the night..."

Mark, Engineered Reality, Amiga Division

Earth calling Cumbria

I am writing to see if you can help. I live in the South Lakes area of Cumbria (Kendal to be exact) and I would like to get together with fellow Amiga enthusiasts in the area with a view to setting up a user group if there is sufficient interest.

CU
AMIGA
WORTH £80
WORLD EXCLUSIVE!
A4000 ON TEST
FREE INSIDE

▲ When the A4000 was in short trousers... see The March of Time (or was it November?).

Could you please print my E-mail address as detailed at the bottom of this mail in your letters page. Well done on continually striving to achieve a better mag, it gets better every month!. I've just read September's issue and I really like the DIY section. Can't wait till October's magazine. Long may CU Amiga reign supreme.

Clive Thomas
clivet@netcomuk.co.uk

... but not that good

Just a few lines to congratulate you on the quality of your magazine, tempered with one small complaint.

While I accept that not all software will run under OS2, I have noticed a couple of cases of CU Amiga claiming that software is OS2 compatible when it is not. Recent examples include the Storm C demo mounted on the cover disk of the August issue and the web browser round-up in the same issue. Fortunately I have Kickstart 3 softkicked onto my A500 Plus, so I can use these programs using Workbench 3 from a second-hand A1200 (I have more memory on the 500). I hope that this will not be a recurring problem in what is essentially a well-advised magazine.

Your coverage of all things Internet-related has spurred me to get online, and it's great to see things moving in the Amiga scene again. All the best for the future.

Vince Hodgson, Leicester

It's easy to make these mistakes when things get busy (and they do get *very* busy around here!) but that's no excuse. We'll try harder next time.

The next generation

No doubt your article on the 'Next Generation' Amiga will have opened a proverbial can of worms, and responses will be coming in thick and fast (hey, sounds like a PC I know) so I'll keep this brief.

The so called next generation machine has, for most people I suspect, been invented already. I am, of course, talking about the phase 5 A\Box. If Gateway 2000/Amiga International were to get together with phase 5 and PIOS to convert a new improved Workbench 4 to PowerPC native code, and take the A\Box as the blueprint for the new official machine, then the Amiga would truly be back for the future.

Such a machine should have a PowerPC version of PC-Task/PCx bundled with it as well. PowerPC chips are far better suited to emulate something as backwards as a push/pop accumulator x86 Intel chip. This way, the potential new owners could take their PC software with them, as this would be one of the largest stumbling blocks any new machine would face because of the Wintel monopoly (forget Apple – everyone else has). Once the user base is established, the purely native Amiga software can be delivered in confidence owing to the decent sized user base.

The Amiga needs the 'Wow' factor putting back into it, and I would think that every Amiga owner agrees that the A\Box is the design to do it. With stunning graphics, excellent audio, and seriously fast CPUs, it sounds like a certain machine did way back in 1985 against the competition of the day...

Neil Sanderson, via E-mail

Amiga: What's that?

It was good to read in your September 97 issue that Guildhall Leisure were trying to push the Amiga through large chains of software suppliers. However, I have since visited all three of my local Electronics Boutique stores and HMV and found nothing!!

When I asked in the Meadowhall store about them I was greeted with the response, "there was a CD32 some time ago". Admittedly the young lady at Doncaster did look at their order list for me, but nothing was listed. I will contact Guildhall when work allows. How are we supposed to keep the Amiga software in the shops if the staff don't have a clue what they are selling? I suppose we just keep pestering them.

Dave Booth, Chesterfield

Most of us will have encountered the incredible amount of ignorance there is in the world concerning the Amiga, and it's a sad fact that much of this comes from staff at high street computer retailers. It's up to all of us to put our case and like you say, keep pestering them. Take a look at Andrew Korn's little monologue in this month's Points of View section for more on this particular subject.

Dodging the issue?

I'd just like to ask you why you didn't answer the very interesting question that JA Ettles asked in the September issue? He (or she?) suggested that as well as, or even instead of, mounting commercial software on the CUCDs, you mount registered shareware. This sounds like an excellent idea to me and would certainly reward some of those hardworking authors out there that often only ever see a very small return. A guaranteed income from mag sales would surely allow you to negotiate some incredible deals (as you already do with the commercial covermounts) while still allowing the author to make far more money than with the normally sporadic shareware registration system.

It sounds like an ideal arrangement for all concerned, so why aren't you doing it? While I'm here, I have another question for you. Why don't you include the PD Scene and PD Utilities programs on the CUCD anymore? I'm sure you did at one time but it doesn't seem to be the case anymore. At least give us the Aminet path so those of us on the net can find them a little easier. As always, keep up the hard work that ensures you remain the best Amiga magazine on the market.

Neil Thurlow

We have actually put some pretty good registered shareware on the cover disks. Image Studio is a recent example (May 97), while Texture Studio, Xi Paint and Easy Calc are others. If a really cool bit of shareware appears that rivals the quality of commercial software we can cover mount, then we'll always show an interest. However,

Continued overleaf ▶▶▶

we won't make any rules about only using shareware as that would obviously limit the range and quality of software we can give you each month. As for the PD Utilities and PD Scene software not appearing on recent CDs... Most people who send us disks to review here want to make a few sales via our pages. If we give them away free, there's not much point in them sending the software to us.

Games aid recovery

In my opinion the Amiga may not recover from its downfall because only two games are being reviewed each month, compared to the PC's 11-15. I don't have anything against the Amiga (I'm probably the only person in my area to still have one).

I myself am upgrading my Amiga to a tower, 64 bit graphics card with 4Mb, PowerPC 603 175MHz processor and 4 speed CD-ROM drive. Software retailers in my area have stopped selling Amiga software except for a place in Kingston that sells a little supply. This makes me mad because it is unfair on us Amiga owners that retailers are not even willing to stock Amiga games in a small corner of the shop.

John Haydon, via E-mail

It's all rubbish!

Some time ago you printed a letter complaining about the standard of Amiga games being released, which I wholeheartedly agreed with. A few weeks later I came across a web site dedicated to that wonderful Amiga game called Gloom.

On these pages was a Gloom editor which had been donated by Mark Sibly (the original coder) and had been used to create the original game. My friend and I started to make our own maps and before long we had enough of them to make two new Gloom levels. Both levels were E-mailed to the Aminet for all to enjoy, I also sent a copy of one to CU which ended up on one of the CUCDs. The response we got was great. Many people E-mailed us to say how good they thought the new levels were and did we have anymore. This started me thinking. We knew a couple of professional graphics designers who were willing to make new textures and baddies and with this in mind I contacted Guildhall Leisure (who published the original game) to see if they were interested in a Gloom data disk.

▲ Gloom, a fave 3D shooter for Amiga gamers.

The first response from Guildhall was promising. I spoke to a guy who said a data disk would be viable. He sounded very interested, but also said that I would have to wait until the guy who makes the decisions was in the office. Fair enough I thought, so I E-mailed my proposal to them and waited a week for the reply. Guess what? After a week there was no answer. So I phoned again and were told to E-mail them again which I did. Another week passed with no reply, and then another. After my sixth phone call I gave up. Guildhall are obviously either...

a) Not interested in the game. In that case just a simple E-mail saying "Get stuffed" would have been preferable to weeks of silence or

b) Not interested in making any money. lots of which would have been made from the sale of said disk (and extra copies of Gloom for those that didn't have the original).

You guys at CU could have had something to fill up a page with and Amiga game players could have had an old favourite brought back to life and actually had a brand new game to play that they hadn't completed ages ago. That was the final straw for me. I've now bought myself a new PC after owning various Amigas for the last ten years, and I'm now having oodles of fun playing Quake on the Internet.

My friend however is still using his Amiga and is still working on new Gloom stuff. If he finishes it (before he buys a PC too) then it will be posted to the Aminet for all to enjoy and nobody will make any money from it.

Jon Bullard, via E-mail

It's a shame you didn't get any response from Guildhall. Fortunately we're not in any desperate need of things to "fill up a page with" so don't worry yourself about that. Let us know when it's finished won't you?

Converted muso

I get the impression from reading your magazine that most Amiga users do all kinds of different things with their computers. Flicking through the pages (often in the newsagent I must admit) I always felt a little left out of it all, as my only real reason for using an Amiga for music. It wasn't until I met a brick wall when trying to get artwork done for my first CD release that things changed, and how!

Basically I was skint, and didn't know any artists who could do the job for me, so I had a look through some old CU Amiga cover disks. I was playing with Vista Lite and liked what I saw so much that it was used for the main cover image. Then I realised just how versatile Wordworth is (once again, from your cover disks) and used that to compile the sleeve notes.

Now I've had a taste of the satisfaction that can be gained from doing more than just music, I'm seriously considering upgrading my basic Amiga to make use of the rest of the software I have lying around (including Vista Pro!).

Thanks, you've made a skint man very happy (if not rich just yet).

The Mighty Zog, Planet Pog.

Good to hear it Mr Zog. What with this month's Draw Studio Lite cover disk, you'll be able to make even more professional looking CD covers. All the best in your route to musical stardom, and when you get there, just remember who it was that helped you out when you were skint!

Coders required

I have just formed a small software company which is called Masquerade Software, and my very first project (a top-down graphic adventure) is approximately half way to completion.

The reason I am writing to you at the moment is because I'm at the preliminary stages of Project 2 (which is another graphic adventure) and I would like to hear from any programmers interested in working on a commercial game and can begin immediately.

Preferably I would like to hear from someone who knows C or Assembler. I would consider something like Blitz 2 or something similar. It is my intention to make top quality Amiga software, and support the machine through whatever changes may occur.

Paul Thomas, Mid Glamorgan

To the Point...

Stick 'em up!

Now that many of us have converted to tower systems, thanks to your excellent articles, how about giving away some stickers or transfers so that we do not get mistaken for PC users?

Anthony Asbury

That's the second request we've had now for Amiga stickers. We'd better think some more about it...

Can I have a plug?

I thought you might want to read the latest story added to my Honourable Mention web page. It is an interview with a technology consultant who motivates big companies by showing them how good developing technology from potential competitors is. One example he gives is how he motivates M$ and Intel by walking in with an Amiga and showing them what it can do. You can view this story and many other Amiga related news items by going to http://www.rust.net/~mignash/hm97.html

Matthew R. Ignash, via E-mail

Consider your web site plugged.

Portable Amiga lust

That's it! You've convinced me. I'm going to have a crack at making a portable computer out of the bits of dead and abandoned technology gathering dust under my bed. I had a little count up and was surprised to find quite a bit of potentially useful bits and pieces, including a fixed-frequency monitor (too big for a portable though), a couple of keyboards, various drives and even an old brief case I found in the cupboard under the stairs. Come to think of it, that monitor would be portable if I used that shopping trolley that's been left outside my house...

Mick Riley, Milton Keynes.

Now that's the attitude! Why don't you combine it with this month's DIY project and then make yourself the world's first remote controlled portable Amiga in a shopping trolley? Well, it's just an idea.

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Points of View

Never short of an opinion, Mat Bettinson gets another long rant all to himself. This time it's about the Amiga Do-It-Yourself phenomenon and its repercussions.

Here's to dirty hands

"It's like a cyborg where the bolt-on electronics add special features, but there's no escaping from the core organic brain that drives the whole shebang"

Truthfully we know that most Amiga users have departed to PC pastures via the Microsoft Gates. Why they did so is a complex subject which has been done to death. The more interesting question for us is... Who are those people who have opted to stay?

Cyborg brain

Staying with the Amiga has automatically meant that you must be fluent with adding strange bits of hardware that poke out ungainly in every direction.

In recent times, the mark of a *hot* Amiga is one that has had the most amount of the original hardware replaced. It's like a cyborg where the bolt-on electronics add spectacular features, but there's no escaping from the core organic brain that drives the whole shebang efficiently. In this analogy, the brain is AmigaOS itself.

The irony is that those who left for the PC looking for a 'turn key' switch-on and go system got a heck of a lot more than they bargained for. Those standard PCI cards that we yearn for provide no end of difficulty with resource conflicts, Windows 95 registry corruption and the inevitable, once monthly complete reinstall of the Gates 'masterpiece'. It's not the fault of PCI cards themselves, as some falsely believe, but rather that this particular cyborg has a terminal case of brain cancer.

I believe it's a combination of the hardware and software upgrades necessary to make the Amiga shine bright, which make you inherently technical people. Or at least willing to experiment, try new things and be unafraid of getting your hands dirty. After all, reinstalling Workbench takes less time than Windows takes to boot.

AMIGA
XG
PROJECT
XG MIDI VOLUME
XG MIDI RESET

Ungainly protrusions

So when the ungainly protrusions from your A1200 were too much, it was time to get your hands dirty and get the Amiga into a nice new home – a brand new exoskeleton for our cyborg. There were a lot of issues to resolve and we've tried to help you with features, buyers guides and round ups of all the little cyberbits that are needed to move house. In reality, it was as much a learning experience for us, as it was for you.

It wasn't a massive leap for us to realise that if you could get your hands dirty with a tower, you could get your hands dirty with some kind of project that allows your Amiga to do new and exciting things.

Project XG was our debut venture in this direction and once again, it was a learning experience all round. The fundamental idea was sound, the execution somewhat lacking and for that we, and specifically I, apologise. Project XG taught us that it's time to call in some expert help from a company that stands to gain by you guys purchasing the parts from them. We've worked closely with them to create a killer DIY project and to do it right.

Now there must be a very great deal of you that thought Project XG looks cool but way too difficult to build. I don't blame you. Our future projects, including AIR Link, require you to get your hands dirty but in a predictable, well documented way.

Since you need to buy the parts anyway, by using a dedicated supplier, they help us conceive hardware and produce the necessary framework such as the circuit boards which make things *much* easier.

New skill, low cost

After building AIR Link, you will have learnt a new skill and created some unique hardware at an outrageously low cost all by yourself. After that, it's all tied up with some high quality Amiga software that won't cost you a penny extra. You can then bend this new project to your will far more effectively than anything like it on the PC.

Again, maybe you'll get your hands dirty with some ARexx scripting too and come up with some incredibly innovative uses for it as Amiga users want to do.

This is what the Amiga is about, getting your hands dirty by experimenting and using a flexible, efficient system that doesn't assume you're stupid from the word go.

When the new Amigas come, as surely they will, the platform will adopt the same values of fun and experimentation that the Amiga has retained since the 8-bit days. That's why I use Amiga and it sure looks like that's why a lot of you do too. With luck, future cyborgs designed to run off the AmigaOS brain, will come complete with some kind of 'geek' port that will allow this tradition of hardware hacking to continue.

Much of what you guys have been asking us to do in DIY Scene is simply impossible because of the limitations of the existing ports, and what's likely to be unused. Sadly we can't make graphics boards, Zorro busses and so on. Even if we could, you wouldn't be able to build it with a £10 Tandy soldering iron.

Hail dirty hands

What we can and shall do, however, will be to create a range of inexpensive, highly useful projects that will seriously enhance your Amiga system. We're working on some stunning projects already and they'll be revealed in good time. As always, we're open to your suggestions but please temper them with the reality of what is likely to be possible. AIR Link is a superb benchmark of what's possible and sets a new DIY standard. Hail to the Amiga and hail to dirty hands!

■ **Mat Bettinson is CU Amiga's Technical Editor - mat@mats.net**

Not as dead as you might think

"Products are coming, games like Myst, OnEscapee and Gloom 3 have the potential to get people excited again. The question is will they be widely available?"

▲ Andy Davidson, creator of Worms, at ECTS to promote the release of Worms 2 – on the PC.

The harsh realities

The recent European Computer Trade Show (ECTS) was quite an impressive experience. There were products on show by the thousands. Mostly games, but quite a few 3D graphics companies were present. Wandering around, I got to see a very interesting 3D scanner product which is soon coming in a hand held model which allows you to scan a shape as a 3D model in seconds.

There was a realtime motion capture / VR suit on show and there were various companies showing the latest 3D graphics boards throwing texture mapped polygons at breathtaking rates. There were great looking games like G Police, Quake 2, Outland and Worms 2. There was the usual assortment of wacky stands, only that much wackier. What there wasn't was an Amiga presence. The total count for the Amiga at the ECTS is as follows...

Spectravideo Stand: one mouse, one joystick, one joypad.

Competition Pro stand: five joysticks.

Guildhall Leisure: leaflets for their latest products.

Not good. Five years ago a show like this would have had Amiga products in the majority. Here it was PC or PlayStation, with Nintendo 64 coming a very distant third. Even the Sega Saturn and Apple Mac had more of a showing than the Amiga at this show. So is that it? Is it time to give in and fork out for one of those temptingly cheap PC clones? No, not yet. The Amiga is a lot less dead than people realise. Unfortunately this includes the industry in general.

The most fashion lead aspect of the industry is the games sector and this is where the Amiga suffers most. The funny thing is that if you look at the figures, there's no reason for the market to be in the state it is in. When I talked to people at ECTS about the Amiga market they were all surprised at how healthy it is. A lot of people don't realise, but both ourselves and the 'other lot' sell not much under 30,000 copies a month. Let me make this clear.

65,000 readers

When you look at those ABC figures at the front of the mag, you are seeing the number of people who get out their wallets and buy a copy of the magazine. This isn't how many the newsagents get, or how many people our marketing bods want to guess read the mag, these are people forking out £4.50 or £5.99 for an Amiga magazine every month. I reckon the actual number of readers of CU to be somewhere in the region of 65,000 or more. That's actually not bad. Sure, top console titles outsell us, a few of the PC leisure titles outsell us, but if magazine sales are any guide, the Amiga ought to still be a significant force. So why isn't it? Because people expect it not to be. According to figures I've recently heard the Amiga games market in the UK is actually slightly bigger than the Mac games market.

This despite the fact that the last new game to be available in the high street stores was WormsDC eight months ago. Sure Guildhall have released some pretty good titles, but the fact is that re-releases are never going to sell as well as a really top new title.

Give us a buzz

The Mac is better represented on the shelves of your local games shop, but only because those titles have more of a buzz about them. If the Amiga market is to be revived there has to be some products widely available over the counter with that buzz factor. The products are coming, games like Myst, OnEscapee and Gloom 3 have the potential to get people excited again. The question is will they be widely available? Not if the industry is so convinced there's no life in the Amiga market that shops will not take the games.

So it's down to us to do something about it. Tell people what you want, be heard. It's no good just walking out of the shop mutter under your breath. At the bottom of the page there is a slip to photocopy and hand to shop assistants who tell you a product you wanted isn't available. If your local shop does not stock a title you are after, just fill in the form and hand it over. Do this as many times as you like, distribute copies to friends, whatever.

Better still, actually tell the people behind the counter that you want their products and that they are losing sales by not stocking enough Amiga product.■

Andrew Korn is CU Amiga's Staff Writer.

For the attention of the Branch Manager.

Dear Sir/Madam...

This is just a short note to tell you that I came to this store hoping to buy the .... title for the Amiga, but found that you do not stock it. I realise that the Amiga is not as big a platform as it once was, but I feel that you are under-representing it in your store.

The reduction in sales of Amiga products is undoubtedly in part due to the reduction in shelf space given to this line. The Amiga market still has an active user base in this country which is estimated to be in the range of 350,000 to 500,000 users, so there is clearly the potential for significant sales. Added to the fact that numerous Amiga owners have second platforms such as N64s, PCs and PlayStations, it can't hurt to keep Amiga owners coming to your store for their purchases rather than leaving them to buy by mail order or seek another outlet.

Thankyou for your time.

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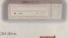

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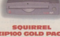

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